INDEX OF AUTHORS OF PAPERS

For the purpose of determining place in the alphabetical order, a name is regarded as beginning with the first letter of the main or family name. Subsequent spaces, hyphens or apostrophes in the main name are disregarded. Names prefixed by Mc are ordered as if the prefix were Mac.

Acrivos, A. *See* Nir & Acrivos

Acrivos, A., Jeffrey, D. J. & Saville, D. A.
Particle migration in suspensions by thermocapillary or electrophoretic motion, **212**, 1990, 95–110

Agarwal, R. & Jaluria, Y.
Deflection of a two-dimensional natural convection wake due to the presence of a vertical surface in close proximity, **201**, 1989, 35–56

Agnon, Y. *See* Mei & Agnon

Ahuja, K. K. *See* Tam & Ahuja

Aihara, Y.
Formation of longitudinal vortices in the sublayer due to boundary-layer turbulence, **214**, 1990, 111–129

Akylas, T. R. *See* Mathew & Akylas

Akylas, T. R. & Kung, T.-J.
On nonlinear wave envelopes of permanent form near a caustic, **214**, 1990, 489–502

Albavetti, L. *See* Rubio, Bigazzi, Albavetti & Ciliberto

Albrecht, G. F. *See* Canuto, Hartke, Battaglia, Chasnov & Albrecht

Alfredsson, P. H. *See* Matsson & Alfredsson

Alfredsson, P. H. & Persson, H.
Instabilities in channel flow with system rotation, **202**, 1989, 543–557

Ali, M. & Weidman, P. D.
On the stability of circular Couette flow with radial heating, **220**, 1990, 53–84

Allen, K. R. & Joseph, R. I.
A canonical statistical theory of oceanic internal waves, **204**, 1989, 185–228

Alving, A. E., Smits, A. J. & Watmuff, J. H.
Turbulent boundary layer relaxation from convex curvature, **211**, 1990, 529–556

Amin, N. & Riley, N.
Streaming from a sphere due to a pulsating source, **210**, 1990, 459–473

Ananth, R. & Gill, W. N.
Dendritic growth of an elliptical paraboloid with forced convection in the melt, **208**, 1989, 575–593

Anderson, S. D. & Eaton, J. K.
Reynolds stress development in pressure-driven three-dimensional turbulent boundary layers, **202**, 1989, 263–294

Anselmet, F. *See* Fulachier, Borghi, Anselmet & Paranthoen

Anson, D. K., Mullin, T. & Cliffe, K. A.
A numerical and experimental investigation of a new solution in the Taylor vortex problem, **207**, 1989, 475–487

Antonia, R. A. *See* Bisset, Antonia & Britz; Bisset, Antonia & Browne

Antonia, R. A. & Bisset, D. K.
Spanwise structure in the near-wall region of a turbulent boundary layer, **210**, 1990, 437–458

Antonia, R. A., Bisset, D. K. & Browne, L. W. B.
Effect of Reynolds number on the topology of the organized motion in a turbulent boundary layer, **213**, 1990, 267–286

Anwer, M. & So, R. M. C.
Frequency of sublayer bursting in a curved bend, **210**, 1990, 415–435

Aranha, J. A. P. & Martins, C. A.
Diffraction of sea waves by a slender body. Part 2. Water of finite depth, **216**, 1990, 133–160

Aranha, J. A. P. & Pesce, C. P.
A variational method for water wave radiation and diffraction problems, **204**, 1989, 135–157

Aref, H. *See* Jones, Thomas & Aref

Armfield, S. W. *See* Patterson & Armfield

Armi, L.
Hydraulic control of zonal currents on a β-plane, **201**, 1989, 357–377

Arpaci, V. S. *See* Stamps, Arpaci & Clark

Asai, M. & Nishioka, M.
Origin of the peak–valley wave structure leading to wall turbulence, **208**, 1989, 1–23

Ascoli, E. P., Dandy, D. S. & Leal, L. G.
Bouyancy-driven motion of a deformable drop toward a planar wall at low Reynolds number, **213**, 1990, 287–311

Ashpis, D. E. & Reshotko, E.
The vibrating ribbon problem revisited, **213**, 1990, 531–547

Atassi, H. M. & Grzedzinski, J.
Unsteady disturbances of streaming motions around bodies, **209**, 1989, 385–403

Aul, R. W. & Olbricht, W. L.
Stability of a thin annular film in pressure-driven, low-Reynolds-number flow through a capillary, **215**, 1990, 595–599

Babiano, A., Basdevant, C., Le Roy, P. & Sadourny, R.
Relative dispersion in two-dimensional turbulence, **214**, 1990, 535–557

Babić, M., Shen, H. H. & Shen, H. T.
The stress tensor in granular shear flows of uniform, deformable disks at high solids concentrations, **219**, 1990, 81–118

Badr, H. M., Coutanceau, M., Dennis, S. C. R. & Ménard, C.
Unsteady flow past a rotating circular cylinder at Reynolds numbers 10^3 and 10^4, **220**, 1990, 459–484

Bai, R. *See* Chen, Bai & Joseph

Baines, W. D. *See* Leitch & Baines

Baines, W. D., Turner, J. S. & Campbell, I. H.
Turbulent fountains in an open chamber, **212**, 1990, 557–592

Bajer, K. & Moffatt, H. K.
On a class of steady confined Stokes flows with chaotic streamlines, **212**, 1990, 337–363

Baker, G. R. & Shelley, M. J.
On the connection between thin vortex layers and vortex sheets, **215**, 1990, 161–194

Balsa, T. F.
Three-dimensional wave packets and instability waves in free shear layers and their receptivity, **201**, 1989, 77–97
Amplitude equations for wave packets in slightly inhomogeneous unstable flows, **204**, 1989, 433–455

Balsa, T. F. & Goldstein, M. E.
On the instabilities of supersonic mixing layers: a high-Mach-number asymptotic theory, **216**, 1990, 585–611

Banks, W. H. H. *See* Watson, Banks, Zaturska & Drazin

Banner, M. L.
The influence of wave breaking on the surface pressure distribution in wind–wave interactions, **211**, 1990, 463–495

Barcilon, V. & Lovera, O. M.
Solitary waves in magma dynamics, **204**, 1989, 121–133

Barenblatt, G. I.
On a model of laminar–turbulent transition, **212**, 1990, 487–496

Barenghi, C. F. & Jones, C. A.
Modulated Taylor–Couette flow, **208**, 1989, 127–160

Barnocky, G. & Davis, R. H.
The influence of pressure-dependent density and viscosity on the elastohydrodynamic collision and rebound of two spheres, **209**, 1989, 501–519

Barrero, A. *See* González, McCluskey, Castellanos & Barrero

Barsikow, B. *See* Monkiewitz, Bechert, Barsikow & Lehmann

Bartenwerfer, M. *See* Bechert & Bartenwerfer

Bartlmä, F.
The propagation of detonation waves in channels of varying cross-section, **218**, 1990, 225–238

Barton, N. G. *See* Stokes & Barton

Basdevant, C. *See* Babiano, Basdevant, Le Roy & Sadourny

Baskaran, V., Pontikis, Y. G. & Bradshaw, P.
Experimental investigation of three-dimensional turbulent boundary layers on 'infinite' swept curved wings, **211**, 1990, 95–122

Bassom, A. P. *See* Horseman & Bassom

Bassom, A. P. & Seddougui, S. O.
The onset of three-dimensionality and time-dependence in Görtler vortices: neutrally stable wavy modes, **220**, 1990, 661–672

Battaglia, A. *See* Canuto, Hartke, Battaglia, Chasnov & Albrecht

Bazhlekov, I. B. *See* Shopov, Minev, Bazhlekov & Zapryanov

Bearman, P. W. *See* Tatsuno & Bearman

Bechert, D. W. *See* Monkiewitz, Bechert, Barsikow & Lehmann

Bechert, D. W. & Bartenwerfer, M.
The viscous flow on surfaces with longitudinal ribs, **206**, 1989, 105–129

Benjamin, T. B.
Note on shape oscillations of bubbles, **203**, 1989, 419–424

Benjamin, T. B. & Ellis, A. T.
Self-propulsion of asymmetrically vibrating bubbles, **212**, 1990, 65–80

Bensimon, D., Kolodner, P., Surko, C. M., Williams, H. & Croquette, V.
Competing and coexisting dynamical states of travelling-wave convection in an annulus, **217**, 1990, 441–467

Bercovici, D., Schubert, G., Glatzmaier, G. A. & Zebib, A.
Three-dimensional thermal convection in a spherical shell, **206**, 1989, 75–104

Beresnev, S. A., Chernyak, V. G. & Fomyagin, G. A.
Motion of a spherical particle in a rarefied gas. Part 2. Drag and thermal polarization, **219**, 1990, 405–421

Berge, L. I.
Radial migration of a single particle in a pore by the resistive pulse and the pressure reversal technique, **217**, 1990, 349–366

Berger, S. A. *See* Hamakiotes & Berger

Bernard, P. S. & Handler, R. A.
Reynolds stress and the physics of turbulent momentum transport, **220**, 1990, 99–124

Bhatt, B. S. *See* Hinch & Bhatt
Bigazzi, P. *See* Rubio, Bigazzi, Albavetti & Ciliberto
Billia, B. *See* Nguyen Thi, Billia & Jamgotchian
Bisset, D. K. *See* Antonia & Bisset; Antonia, Bisset & Browne
Bisset, D. K., Antonia, R. A. & Britz, D.
Structure of large-scale vorticity in a turbulent far wake, **218**, 1990, 463–482
Bisset, D. K., Antonia, R. A. & Browne, L. W. B.
Spatial organization of large structures in the turbulent far wake of a cylinder, **218**, 1990, 439–461
Blackwelder, R. F. *See* Chang & Blackwelder
Blake, J. R. *See* Shima, Tomita, Gibson & Blake
Blake, R. *See* Lighthill & Blake
Blondeaux, P.
Sand ripples under sea waves. Part 1. Ripple formation, **218**, 1990, 1–17
See also Vittori & Blondeaux
Bodonyi, R. J., Welch, W. J. C., Duck, P. W. & Tadjfar, M.
A numerical study of the interaction between unsteady free-stream disturbances and localized variations in surface geometry, **209**, 1989, 285–308
Bonmarin, P.
Geometric properties of deep-water breaking waves, **209**, 1989, 405–433
Bontozoglou, V. & Hanratty, T. J.
Capillary–gravity Kelvin–Helmholtz waves close to resonance, **217**, 1990, 71–91
Borgas, M. S. & Pedley, T. J.
Non-uniqueness and bifurcation in annular and planar channel flows, **214**, 1990, 229–250
Borghi, R. *See* Fulachier, Borghi, Anselmet & Paranthoen
Böttcher, J. & Wedemeyer, E.
The flow downstream of screens and its influence on the flow in the stagnation region of cylindrical bodies, **204**, 1989, 501–522
Boubnov, B. M. & Golitsyn, G. S.
Temperature and velocity field regimes of convective motions in a rotating plane fluid layer, **219**, 1990, 215–239
Bousfield, D. W., Stockel, I. H. & Nanivadekar, C. K.
The breakup of viscous jets with large velocity modulations, **218**, 1990, 601–617
Bradshaw, P. *See* Baskaran, Pontikis & Bradshaw; Hancock & Bradshaw
Brand, V. P. *See* Zdravkovich, Brand, Mathew & Weston
Breidenthal, R. E. *See* Shy & Breidenthal
Breidenthal, R. E., Buonadonna, V. R. & Weisbach, M. F.
Molecular mixing via jets in confined volumes, **219**, 1990, 531–544
Brenner, H. *See* Frankel & Brenner
Breuer, K. S. & Haritonidis, J. H.
The evolution of a localized disturbance in a laminar boundary layer. Part 1. Weak disturbances, **220**, 1990, 569–594
Breuer, K. S. & Landahl, M. T.
The evolution of a localized disturbance in a laminar boundary layer. Part 2. Strong disturbances, **220**, 1990, 595–621
Briançon-Marjollet, L., Franc, J. P. & Michel, J. M.
Transient bubbles interacting with an attached cavity and the boundary layer, **218**, 1990, 355–376
Britz, D. *See* Bisset, Antonia & Britz
Brown, E. D., Buchsbaum, S. B., Hall, R. E., Penhune, J. P., Schmitt, K. F., Watson, K. M. & Wyatt, D. C.
Observations of a nonlinear solitary wave packet in the Kelvin wake of a ship, **204**, 1989, 263–293
Brown, S. N. *See* Smith & Brown
Brown, S. N., Cheng, H. K. & Lee, C. J.
Inviscid–viscous interaction on triple-deck scales in a hypersonic flow with strong wall cooling, **220**, 1990, 309–337
Browne, L. W. B. *See* Antonia, Bisset & Browne; Bisset, Antonia & Browne
Brownjohn, D. P. *See* Hurlburt, Proctor, Weiss & Brownjohn
Bryant, P. J.
Nonlinear progressive free waves in a circular basin, **205**, 1989, 453–467
Buchsbaum, S. B. *See* Brown, Buchsbaum, Hall, Penhune, Schmitt, Watson & Wyatt
Buntine, J. D. & Pullin, D. I.
Merger and cancellation of strained vortices, **205**, 1989, 263–295
Buonadonna, V. R. *See* Breidenthal, Buonadonna & Weisbach
Buresti, G. & Casarosa, C.
One-dimensional adiabatic flow of equilibrium gas–particle mixtures in long vertical ducts with friction, **203**, 1989, 251–272
Busse, F. H. *See* Clever & Busse; Umemura & Busse
Byatt-Smith, J. G. B.
The head-on interaction of two solitary waves of unequal amplitude, **205**, 1989, 573–579

Cambon, C. *See* Jacquin, Leuchter, Cambon & Mathieu
Cambon, C. & Jacquin, L.
Spectral approach to non-isotropic turbu-

lence subjected to rotation, **202**, 1989, 295–317

Campbell, C. S.
The stress tensor for simple shear flows of a granular material, **203**, 1989, 449–473

Campbell, I. H. *See* Baines, Turner & Campbell

Canuto, V. M., Hartke, G. J., Battaglia, A., Chasnov, J. & Albrecht, G. F.
Theoretical study of turbulent channel flow: bulk properties, pressure fluctuations, and propagation of electromagnetic waves, **211**, 1990, 1–35

Cardoso, O. *See* Tabeling, Cardoso & Perrin

Carnevale, G. F. *See* Vallis, Carnevale & Young

Carnevale, G. F. & Vallis, G. K.
Pseudo-advective relaxation to stable states of inviscid two-dimensional fluids, **213**, 1990, 549–571

Carpenter, B. M. & Homsy, G. M.
Combined buoyant–thermocapillary flow in a cavity, **207**, 1989, 121–132

Carpenter, P. W. & Morris, P. J.
The effect of anisotropic wall compliance on boundary-layer stability and transition, **218**, 1990, 171–223

Carruthers, D. J. *See* Hunt & Carruthers

Casarosa, C. *See* Buresti & Casarosa

Castaing, B., Gunaratne, G., Heslot, F., Kadanoff, L., Libchaber, A., Thomae, S., Wu, X., Zaleski, S. & Zanetti, G.
Scaling of hard thermal turbulence in Rayleigh–Bénard convection, **204**, 1989, 1–30

Castellanos, A. *See* González, McCluskey, Castellanos & Barrero

Cattaneo, F., Chiueh, T. & Hughes, D. W.
Buoyancy-driven instabilities and the nonlinear breakup of a sheared magnetic layer, **219**, 1990, 1–23

Caussignac, Ph. *See* Singh, Caussignac, Fortes, Joseph & Lundgren

Cermak, J. E. *See* Woo, Cermak & Peterka

Chae, J. W. *See* Dalrymple, Suh, Kirby & Chae

Chan, T. M. *See* Chen, Ku, Chan & Yang

Chang, H.-C. *See* Ratulowski & Chang

Chang, K.-S. & Sa, J.-Y.
The effect of buoyancy on vortex shedding in the near wake behind a circular cylinder, **220**, 1990, 253–266

Chang, S.-I. & Blackwelder, R. F.
Modification of large eddies in turbulent boundary layers, **213**, 1990, 419–442

Chao, B. H. & Law, C. K.
Diffusional-thermal instability of adiabatic flame propagation in dissociation equilibrium, **201**, 1989, 1–12

Chasnov, J. *See* Canuto, Hartke, Battaglia, Chasnov & Albrecht

Chatwin, P. C. & Sullivan, P. J.
A simple and unifying physical interpretation of scalar fluctuation measurements from many turbulent shear flows, **212**, 1990, 533–556

Cheer, A. Y.
Unsteady separated wake behind an impulsively started cylinder in slightly viscous fluid, **201**, 1989, 485–505

Chen, C. F. *See* Chen & Chen; Murray & Chen

Chen, F. & Chen, C. F.
Experimental investigation of convective stability in a superposed fluid and porous layer when heated from below, **207**, 1989, 311–321

Chen, J.-D.
Growth of radial viscous fingers in a Hele-Shaw cell, **201**, 1989, 223–242

Chen, K. *See* Preziosi, Chen & Joseph

Chen, K. P., Bai, R. & Joseph, D. D.
Lubricated pipelining. Part 3. Stability of core–annular flow in vertical pipes, **214**, 1990, 251–286

Chen, K. S., Ku, A. C., Chan, T. M. & Yang, S. Z.
Flow in the half-filled annulus between horizontal concentric cylinders in relative motion, **213**, 1990, 149–169

Cheng, H. K. *See* Brown, Cheng & Lee; Karpouzian, Spedding & Cheng; Lee & Cheng

Chenoweth, D. R. *See* Paolucci & Chenoweth

Chernyak, V. G. *See* Beresnev, Chernyak & Fomyagin

Chevray, R. *See* Panides & Chevray

Chi, B. K. & Leal, L. G.
A theoretical study of the motion of a viscous drop toward a fluid interface at low Reynolds number, **201**, 1989, 123–146

Chiang, H. D. *See* Goldstein, Chiang & See

Childress, S., Ierley, G. R., Spiegel, E. A. & Young, W. R.
Blow-up of unsteady two-dimensional Euler and Navier–Stokes solutions having stagnation-point form, **203**, 1989, 1–22

Childress, S. & Soward, A. M.
Scalar transport and alpha-effect for a family of cat's-eye flows, **205**, 1989, 99–133

Chiueh, T. *See* Cattaneo, Chiueh & Hughes

Choi, K.-S.
Near-wall structure of a turbulent boundary layer with riblets, **208**, 1989, 417–458

Choi, S.-W. *See* Goldstein & Choi

Christodoulou, K. N. & Scriven, L. E.
The fluid mechanics of slide coating, **208**, 1989, 321–354

Chung, M. K. & Kyong, N. H.
Measurement of turbulent dispersion behind a fine cylindrical heat source in a weakly sheared flow, **205**, 1989, 171–193

Ciliberto, S. *See* Rubio, Bigazzi, Albavetti & Ciliberto
Cimbala, J. M. & Park, W. J.
An experimental investigation of the turbulent structure in a two-dimensional momentumless wake, **213**, 1990, 479–509
Clark, J. A. *See* Stamps, Arpaci & Clark
Clavin, P., Pelcé, P. & He, L.
One-dimensional vibratory instability of planar flames propagating in tubes, **216**, 1990, 299–322
Clever, R. M. & Busse, F. H.
Nonlinear oscillatory convection in the presence of a vertical magnetic field, **201**, 1989, 507–523
Cliffe, K. A. *See* Anson, Mullin & Cliffe; Fearn, Mullin & Cliffe
Cobbold, R. S. C. *See* Ojha, Cobbold, Johnston & Hummel
Colella, P. & Henderson, L. F.
The von Neumann paradox for the diffraction of weak shock waves, **213**, 1990, 71–94
Coleman, G. N., Ferziger, J. H. & Spalart, P. R.
A numerical study of the turbulent Ekman layer, **213**, 1990, 313–348
Coles, D. *See* Glezer & Coles
Condie, S. A. & Griffiths, R. W.
Convection in a rotating cavity: modelling ocean circulation, **207**, 1989, 453–474
Conlisk, A. T. *See* Cunzhen & Conlisk
Cooker, M. J., Peregrine, D. H., Vidal, C. & Dold, J. W.
The interaction between a solitary wave and a submerged semicircular cylinder, **215**, 1990, 1–22
Corke, T. C. & Mangano, R. A.
Resonant growth of three-dimensional modes in transitioning Blasius boundary layers, **209**, 1989, 93–150
Coutanceau, M. *See* Badr, Coutanceau, Dennis & Ménard; Ohmi, Coutanceau, Ta Phuoc Loc & Dulieu
Cowley, S. J. *See* Van Dommelen & Cowley
Cowley, S. J. & Hall, P.
On the instability of hypersonic flow past a wedge, **214**, 1990, 17–42
Cox, R. G. *See* Khayat & Cox
Cox, S. M., Drazin, P. G., Ryrie, S. C. & Slater, K.
Chaotic advection of irrotational flows and of waves in fluids, **214**, 1990, 517–534
Coyle, D. J., Macosko, C. W. & Scriven, L. E.
Stability of symmetric film-splitting between counter-rotating cylinders, **216**, 1990, 437–458
Creamer, D. B., Henyey, F., Schult, R. & Wright, J.
Improved linear representation of ocean surface waves, **205**, 1989, 135–161
Creighton, B. J. *See* Lin, Lian & Creighton
Crighton, D. G.
GKB and Euromech, **212**, 1990, 7–9
Crighton, D. G. & Huerre, P.
Shear-layer pressure fluctuations and superdirective acoustic sources, **220**, 1990, 355–368
Croquette, V. *See* Bensimon, Kolodner, Surko, Williams & Croquette
Cunzhen, Z. & Conlisk, A. T.
Separation in a gas centrifuge at high feed flow rate, **208**, 1989, 355–373
Dahm, W. J. A. & Dimotakis, P. E.
Mixing at large Schmidt number in the self-similar far field of turbulent jets, **217**, 1990, 299–330
Dahm, W. J. A., Scheil, C. M. & Tryggvason, G.
Dynamics of vortex interaction with a density interface, **205**, 1989, 1–43
Dallmann, U. *See* Floryan & Dallmann
Dalrymple, R. A., Suh, K. D., Kirby, J. T. & Chae, J. W.
Models for very wide-angle water waves and wave diffraction. Part 2. Irregular bathymetry, **201**, 1989, 299–322
Dandy, D. S. *See* Ascoli, Dandy & Leal
Dandy, D. S. & Dwyer, H. A.
A sphere in shear flow at finite Reynolds number: effect of shear on particle lift, drag, and heat transfer, **216**, 1990, 381–410
Dandy, D. S. & Leal, L. G.
Buoyancy-driven motion of a deformable drop through a quiescent liquid at intermediate Reynolds numbers, **208**, 1989, 161–192
Daniels, P. G.
Stationary instability of the convective flow between differentially heated vertical planes, **203**, 1989, 525–540
Daniels, P. G. & Ong, C. F.
Nonlinear convection in a rigid channel uniformly heated from below, **215**, 1990, 503–523
Daskopoulos, P. & Lenhoff, A. M.
Flow in curved ducts: bifurcation structure for stationary ducts, **203**, 1989, 125–148 (and Corrigendum, **215**, 1990, 663)
Flow in curved ducts. Part 2. Rotating ducts, **217**, 1990, 575–593
Davey, M. K. *See* Johnson & Davey
Davidson, J. F. *See* Pandit & Davidson
Davidson, P. A.
The interaction between swirling and recirculating velocity components in unsteady, inviscid flow, **209**, 1989, 35–55
Davis, R. H. *See* Barnocky & Davis; Yiantsios & Davis

Davis, S. H.
Hydrodynamic interactions in directional solidification, **212**, 1990, 241–262
Dengel, P. & Fernholz, H. H.
An experimental investigation of an incompressible turbulent boundary layer in the vicinity of separation, **212**, 1990, 615–636
Dennis, S. C. R. *See* Badr, Coutanceau, Dennis & Ménard
Deslouis, C., Gil, O. & Tribollet, B.
Frequency response of electrochemical sensors to hydrodynamic fluctuations, **215**, 1990, 85–100
Devenport, W. J. & Simpson, R. L.
Time-dependent and time-averaged turbulence structure near the nose of a wing–body junction, **210**, 1990, 23–55
Dhont, J. K. G.
On the distortion of the static structure factor of colloidal fluids in shear flow, **204**, 1989, 421–431
Dias, F. & Vanden-Broeck, J.-M.
Open channel flows with submerged obstructions, **206**, 1989, 155–170
Flows emerging from a nozzle and falling under gravity, **213**, 1990, 465–477
Díaz, F. *See* Massons, Ruiz & Díaz
Diez, J. L. *See* Sanz & Diez
Dimotakis, P. E. *See* Dahm & Dimotakis; Dowling & Dimotakis
Dinar, N. *See* Kaplan & Dinar
Dixon, A.
Momentum disturbances and wave trains, **207**, 1989, 295–310
A stability analysis for interfacial waves using a Zakharov equation, **214**, 1990, 185–210
See also Tuck & Dixon
Dold, J. W. *See* Cooker, Peregrine, Vidal & Dold
Dowling, A. P.
The effect of large-eddy breakup devices on flow noise, **208**, 1989, 193–223
See also Hughes & Dowling
Dowling, D. R. & Dimotakis, P. E.
Similarity of the concentration field of gas-phase turbulent jets, **218**, 1990, 109–141
Drazin, P. G. *See* Cox, Drazin, Ryrie & Slater; Watson, Banks, Zaturska & Drazin
Dritschel, D. G.
On the stabilization of a two-dimensional vortex strip by adverse shear, **206**, 1989, 193–221
The stability of elliptical vortices in an external straining flow, **210**, 1990, 223–261
Drummond, I. T. & Münch, W.
Turbulent stretching of line and surface elements, **215**, 1990, 45–59
Duck, P. W.
Three-dimensional marginal separation, **202**, 1989, 559–575
A numerical method for treating time-periodic boundary layers, **204**, 1989, 549–561
The inviscid axisymmetric stability of the supersonic flow along a circular cylinder, **214**, 1990, 611–637
The response of a laminar boundary layer in supersonic flow to small-amplitude progressive waves, **219**, 1990, 423–448
Unsteady three-dimensional marginal separation, including breakdown, **220**, 1990, 85–98
See also Bodonyi, Welch, Duck & Tadjfar
Duck, P. W. & Hall, P.
Non-axisymmetric viscous lower-branch modes in axisymmetric supersonic flows, **213**, 1990, 191–201
Dulieu, A. *See* Ohmi, Coutanceau, Ta Phuoc Loc & Dulieu
Dussan V., E. B. *See* Ngan & Dussan V.
Dwyer, H. A. *See* Dandy & Dwyer

Eatock Taylor, R. *See* Wu & Eatock Taylor
Eaton, J. K. *See* Anderson & Eaton
Ecker, G. Z. *See* Temkin & Ecker
Egger, J.
A note on complete sets of material conservation laws, **204**, 1989, 543–548
Ehrhard, P. & Müller, U.
Dynamical behaviour of natural convection in a single-phase loop, **217**, 1990, 487–518
Elad, D., Kamm, R. D. & Shapiro, A. H.
Steady compressible flow in collapsible tubes: application to forced expiration, **203**, 1989, 401–418
Ellis, A. T. *See* Benjamin & Ellis
Elmore, P. A. *See* Pumphrey & Elmore
Ermshaus, R. *See* Obasaju, Ermshaus & Naudascher
Evans, D. V.
The wide-spacing approximation applied to multiple scattering and sloshing problems, **210**, 1990, 647–658
See also Linton & Evans

Faeth, G. M. *See* Parthasarathy & Faeth
Falco, R. E. *See* Klewicki & Falco
Farge, M. & Sadourny, R.
Wave–vortex dynamics in rotating shallow water, **206**, 1989, 433–462
Fearn, R. M., Mullin, T. & Cliffe, K. A.
Nonlinear flow phenomena in a symmetric sudden expansion, **211**, 1990, 595–608
Fernández de la Mora, J. *See* Riesco-Chueca & Fernández de la Mora
Fernando, E. M. & Smits, A. J.
A supersonic turbulent boundary layer in an adverse pressure gradient, **211**, 1990, 285–307

Fernando, H. J. S.
Buoyancy transfer across a diffusive interface, **209**, 1989, 1–34
Fernholz, H. H. *See* Dengel & Fernholz; Jaroch & Fernholz
Ferré, J. A., Mumford, J. C., Savill, A. M. & Giralt, F.
Three-dimensional large-eddy motions and fine-scale activity in a plane turbulent wake, **210**, 1990, 371–414
Ferziger, J. H. *See* Coleman, Ferziger & Spalart; Singer, Ferziger & Reed
Ffowcs Williams, J. E. & Huang, X. Y.
Active stabilization of compressor surge, **204**, 1989, 245–262
Finlay, W. H.
Transition to oscillatory motion in rotating channel flow, **215**, 1990, 209–227
Fiszdon, W., Schwerdtner, M. von, Stamm, G. & Poppe, W.
Temperature overshoot due to quantum turbulence during the evolution of moderate heat pulses in He II, **212**, 1990, 663–684
Flierl, G. R. *See* Polvani, Zabusky & Flierl
Floryan, J. M. & Dallmann, U.
Flow over a leading edge with distributed roughness, **216**, 1990, 629–656
Foda, M. A.
Sideband damping of water waves over a soft bed, **201**, 1989, 189–201
Fomyagin, G. A. *See* Beresnev, Chernyak & Fomyagin
Førland, E. *See* Weber & Førland
Fortes, A. *See* Singh, Caussignac, Fortes, Joseph & Lundgren
Forth, S. A. & Wheeler, A. A.
Hydrodynamic and morphological stability of the unidirectional solidification of a freezing binary alloy: a simple model, **202**, 1989, 339–366
Foster, M. R.
Rotating stratified flow past a steep-sided obstacle: incipient separation, **206**, 1989, 47–73
Foster, M. R. & Smith, F. T.
Stability of Long's vortex at large flow force, **206**, 1989, 405–432
Franc, J. P. *See* Briançon-Marjollet, Franc & Michel
Frankel, I. & Brenner, H.
On the foundations of generalized Taylor dispersion theory, **204**, 1989, 97–119
Frankel, I. & Weihs, D.
Hydrodynamic theory of glancing impact, **216**, 1990, 213–229
Fredsøe, J. *See* Jensen, Sumer & Fredsøe
Frisch, U. *See* Sulem, She, Scholl & Frisch
Fulachier, L., Borghi, R., Anselmet, F. & Paranthoen, P.
Influence of density variations on the structure of low-speed turbulent flows: a report on Euromech 237, **203**, 1989, 577–593

Ganatos, P. *See* Hsu & Ganatos
Gaver, D. P. & Grotberg, J. B.
The dynamics of a localized surfactant on a thin film, **213**, 1990, 127–148
Gennes, P. G. de, Hua, X. & Levinson, P.
Dynamics of wetting: local contact angles, **212**, 1990, 55–63
Georgiadis, J. G. *See* He & Georgiadis
Germano, M.
The Dean equations extended to a helical pipe flow, **203**, 1989, 289–305
Gharib, M. *See* Williams-Stuber & Gharib
Gharib, M. & Williams-Stuber, K.
Experiments on the forced wake of an airfoil, **208**, 1989, 225–255
Ghazali, A. *See* Yeh, Ghazali & Marton
Ghil, M. *See* Sakuma & Ghil
Gibson, D. C. *See* Shima, Tomita, Gibson & Blake
Gil, O. *See* Deslouis, Gil & Tribollet
Gill, W. N. *See* Ananth & Gill
Giralt, F. *See* Ferré, Mumford, Savill & Giralt
Girimaji, S. S. & Pope, S. B.
Material-element deformation in isotropic turbulence, **220**, 1990, 427–458
Glatzel, W.
The linear stability of viscous compressible plane Couette flow, **202**, 1989, 515–541
Glatzmaier, G. A. *See* Bercovici, Schubert, Glatzmaier & Zebib
Glezer, A. & Coles, D.
An experimental study of a turbulent vortex ring, **211**, 1990, 243–283
Goldshtik, M. A. & Javorsky, N. I.
On the flow between a porous rotating disk and a plane, **207**, 1989, 1–28
Goldshtik, M. A. & Shtern, V. A.
Collapse in conical viscous flows, **218**, 1990, 483–508
Goldstein, M. E. *See* Balsa & Goldstein
Goldstein, M. E. & Choi, S.-W.
Nonlinear evolution of interacting oblique waves on two-dimensional shear layers, **207**, 1989, 97–120 (and Corrigendum, **216**, 1990, 659–663)
Goldstein, M. E. & Leib, S. J.
Nonlinear evolution of oblique waves on compressible shear layers, **207**, 1989, 73–96
Goldstein, M. E. & Wundrow, D. W.
Spatial evolution of nonlinear acoustic mode instabilities on hypersonic boundary layers, **219**, 1990, 585–607
Goldstein, R. J. *See* Shadid & Goldstein
Goldstein, R. J., Chiang, H. D. & See, D. L.
High-Rayleigh-number convection in a horizontal enclosure, **213**, 1990, 111–126
Golitsyn, G. S. *See* Boubnov & Golitsyn

González, H., McCluskey, F. M. J., Castellanos, A. & Barrero, A.
Stabilization of dielectric liquid bridges by electric fields in the absence of gravity, **206**, 1989, 545–561
Gottlieb, M. *See* Milliken, Gottlieb, Graham, Mondy & Powell
Graham, A. L. *See* Milliken, Gottlieb, Graham, Mondy & Powell
Gratton, J. & Minotti, F.
Self-similar viscous gravity currents: phase-plane formalism, **210**, 1990, 155–182
Griffiths, R. W. *See* Condie & Griffiths
Grimshaw, R. H. J. *See* Pullin, Jacobs, Grimshaw & Saffman
Grosch, C. E. *See* Jackson & Grosch
Grosenbaugh, M. A. & Yeung, R. W.
Nonlinear free-surface flow at a two-dimensional bow, **209**, 1989, 57–75
Grotberg, J. B. *See* Gaver & Grotberg
Grove, J. W. & Menikoff, R.
Anomalous reflection of a shock wave at a fluid interface, **219**, 1990, 313–336
Grzedzinski, J. *See* Ataasi & Grzedzinski
Guermond, J.-L.
A generalized lifting-line theory for curved and swept wings, **211**, 1990, 497–513
Gunaratne, G. *See* Castaing, Gunaratne, Heslot, Kadanoff, Libchaber, Thomae, Wu, Zaleski & Zanetti
Guo, Y. P.
Sound generation by a supersonic aerofoil cutting through a steady jet flow, **216**, 1990, 193–212
Gursul, I. & Rockwell, D.
Vortex street impinging upon an elliptical leading edge, **211**, 1990, 211–242

Hackborn, W. W.
Asymmetric Stokes flow between parallel planes due to a rotlet, **218**, 1990, 531–546
Hall, P. *See* Cowley & Hall; Duck & Hall
Hall, P. & Seddougui, S. O.
On the onset of three-dimensionality and time-dependence in Görtler vortices, **204**, 1989, 405–420
Wave interactions in a three-dimensional attachment-line boundary layer, **217**, 1990, 367–390
Hall, R. E. *See* Brown, Buchsbaum, Hall, Penhune, Schmitt, Watson & Wyatt
Halpern, D. & Secomb, T. W.
The squeezing of red blood cells through capillaries with near-minimal diameters, **203**, 1989, 381–400
Hamakiotes, C. C. & Berger, S. A.
Periodic flows through curved tubes: the effect of the frequency parameter, **210**, 1990, 353–370
Hammack, J. *See* Perlin, Henderson & Hammack
Hammack, J., Scheffner, N. & Segur, H.
Two-dimensional periodic waves in shallow water, **209**, 1989, 567–589
Han, J.-C. *See* Lock & Han
Hancock, P. E. & Bradshaw, P.
Turbulence structure of a boundary layer beneath a turbulent free stream, **205**, 1989, 45–76
Handler, R. A. *See* Bernard & Handler
Hanratty, T. J. *See* Bontozoglou & Hanratty
Hara, T. & Mei, C. C.
Oscillating flows over periodic ripples, **211**, 1990, 183–209
Centrifugal instability of an oscillatory flow over periodic ripples, **217**, 1990, 1–32
Haritonidis, J. H. *See* Breuer & Haritonidis
Harris, R. M. *See* Pearlstein, Harris & Terrones
Hart, J. E.
On oscillatory flow over topography in a rotating fluid, **214**, 1990, 437–454
See also Ohlsen & Hart
Hartke, G. J. *See* Canuto, Hartke, Battaglia, Chasnov & Albrecht
Hayakawa, M. & Hussain, F.
Three-dimensionality of organized structures in a plane turbulent wake, **206**, 1989, 375–404
Haynes, P. H.
The effect of barotropic instability on the nonlinear evolution of a Rossby-wave critical layer, **207**, 1989, 231–266
He, L. *See* Clavin, Pelcé & He
He, X. S. & Georgiadis, J. G.
Natural convection in porous media: effect of weak dispersion on bifurcation, **216**, 1990, 285–298
Heggs, P. J. *See* Ingham, Keen, Heggs & Morton
Heijst, G. J. F. van
Spin-up phenomena in non-axisymmetric containers, **206**, 1989, 171–191
Heister, S. D., McDonough, J. M., Karagozian, A. R. & Jenkins, D. W.
The compressible vortex pair, **220**, 1990, 339–354
Helland, K. N. *See* Itsweire & Helland
Henderson, D. *See* Perlin, Henderson & Hammack
Henderson, D. M. & Miles, J. W.
Single-mode Faraday waves in small cylinders, **213**, 1990, 95–109
Henderson, L. F. *See* Colella & Henderson
Henyey, F. *See* Creamer, Henyey, Schult & Wright
Hermann, A. J., Rhines, P. B. & Johnson, E. R.
Nonlinear Rossby adjustment in a channel: beyond Kelvin waves, **205**, 1989, 469–502

Herring, J. R. *See* Métais & Herring
Herring, J. R. & Métais, O.
Numerical experiments in forced stably stratified turbulence, **202**, 1989, 97–115
Heslot, F. *See* Castaing, Gunaratne, Heslot, Kadanoff, Libchaber, Thomae, Wu, Zaleski & Zanetti
Hill, N. A., Pedley, T. J. & Kessler, J. O.
Growth of bioconvection patterns in a suspension of gyrotactic micro-organisms in a layer of finite depth, **208**, 1989, 509–543
Hinch, E. J. *See* Schonberg & Hinch
Hinch, E. J. & Bhatt, B. S.
Stability of an acid front moving through porous rock, **212**, 1990, 279–288
Hino, M. *See* Nadaoka, Hino & Koyano
Hirata, K. *See* Nakamura & Hirata
Ho, C.-M. *See* Huang & Ho
Hocking, L. M.
Spreading and instability of a viscous fluid sheet, **211**, 1990, 373–392
Homsy, G. M. *See* Carpenter & Homsy
Hopfinger, E. J. & Linden, P. F.
The effect of background rotation on fluid motions: a report on Euromech 245, **211**, 1990, 417–435
Hopper, R. W.
Plane Stokes flow driven by capillarity on a free surface, **213**, 1990, 349–375
Horseman, N. J. & Bassom, A. P.
Long-wave/short-wave interactions in flow between concentric cylinders, **215**, 1990, 525–548
Howe, M. S.
On unsteady surface forces, and sound produced by the normal chopping of a rectilinear vortex, **206**, 1989, 131–153
Hsu, R. & Ganatos, P.
The motion of a rigid body in a viscous fluid bounded by a plane wall, **207**, 1989, 29–72
Hu, F. Q. *See* Tam & Hu
Hu, H. H. & Joseph, D. D.
Lubricated pipelining: stability of core–annular flow. Part 2, **205**, 1989, 359–396
Hua, X. *See* Gennes, Hua & Levinson
Huang, L.-S. & Ho, C.-M.
Small-scale transition in a plane mixing layer, **210**, 1990, 475–500
Huang, X. Y. *See* Ffowcs Williams & Huang
Huerre, P. *See* Crighton & Huerre
Hughes, D. W. *See* Cattaneo, Chiueh & Hughes
Hughes, I. J. & Dowling, A. P.
The absorption of sound by perforated linings, **218**, 1990, 299–335
Hui, W. H. *See* Ma & Hui
Hummel, R. L. *See* Ojha, Cobbold, Johnston & Hummel
Hunt, J. C. R. *See* Kida & Hunt
Hunt, J. C. R. & Carruthers, D. J.
Rapid distortion theory and the 'problems' of turbulence, **212**, 1990, 497–532
Huppert, H. E.
The fluid mechanics of solidification, **212**, 1980, 209–240
See also Kerr, Woods, Worster & Huppert
Hur, N. *See* Thangam & Hur
Hurlburt, N. E., Proctor, M. R. E., Weiss, N. O. & Brownjohn, D. P.
Nonlinear compressible magnetoconvection. Part 1. Travelling waves and oscillations, **207**, 1989, 587–628
Husain, H. S. *See* Hussain & Husain
Hussain, F. *See* Hayakawa & Hussain; Tso & Hussain
Hussain, F. & Husain, H. S.
Elliptic jets. Part 1. Characteristics of unexcited and excited jets, **208**, 1989, 257–320
Hussaini, M. Y. *See* Malik & Hussaini
Hutchinson, P. *See* McComb, Shanmugasundaram & Hutchinson
Hwang, P. A., Xu, D. & Wu, J.
Breaking of wind-generated waves: measurements and characteristics, **202**, 1989, 177–200

Ibrahim, E. A. *See* Lin & Ibrahim
Ierley, G. R. *See* Childress, Ierley, Spiegel & Young
Ingham, D. B., Keen, D. J., Heggs, P. J. & Morton, B. R.
Recirculating pipe flows, **213**, 1990, 443–464
Ingham, D. B., Tang, T. & Morton, B. R.
Steady two-dimensional flow through a row of normal flat plates, **210**, 1990, 281–302
Ishibashi, M. *See* Masuda, Marubayashi & Ishibashi
Ishii, R., Umeda, Y. & Yuhi, M.
Numerical analysis of gas–particle two-phase flows, **203**, 1989, 475–515
Itsweire, E. C. & Helland, K. N.
Spectra and energy transfer in stably stratified turbulence, **207**, 1989, 419–452
Ivey, G. N. & Nokes, R. I.
Vertical mixing due to the breaking of critical internal waves on sloping boundaries, **204**, 1989, 479–500

Jackson, R. *See* Johnson, Nott & Jackson
Jackson, T. L. & Grosch, C. E.
Inviscid spatial stability of a compressible mixing layer, **208**, 1989, 609–637
Inviscid spatial stability of a compressible mixing layer. Part 2. The flame sheet model, **217**, 1990, 391–420
Jacobs, P. A. *See* Pullin, Jacobs, Grimshaw & Saffman
Jacqmin, D.
Parallel flows with Soret effect in tilted cylinders, **211**, 1990, 355–372
Stability of an oscillated fluid with a uniform density gradient, **219**, 1990, 449–468
Jacquin, L. *See* Cambon & Jacquin

Jacquin, L., Leuchter, O., Cambon, C. & Mathieu, J.
Homogeneous turbulence in the presence of rotation, **220**, 1990, 1–52
Jaluria, Y. *See* Agarwal & Jaluria
Jamgotchian, H. *See* Nguyen Thi, Billia & Jamgotchian
Jankowski, D. F. *See* Shen, Neitzel, Jankowski & Mittelmann
Janowitz, G. S.
The role of the surface density field in subtropical gyre circulation, **209**, 1989, 227–247
Jaroch, M. P. & Fernholz, H. H.
The three-dimensional character of a nominally two-dimensional separated turbulent shear flow, **205**, 1989, 523–552
Jaupart, C. & Vergniolle, S.
The generation and collapse of a foam layer at the roof of a basaltic magma chamber, **203**, 1989, 347–380
Javorsky, N. I. *See* Goldshtik & Javorsky
Jeffrey, D. J. *See* Acrivos, Jeffrey & Saville
Jenkins, D. W. *See* Heister, McDonough, Karagozian & Jenkins
Jensen, B. L., Sumer, B. M. & Fredsøe, J.
Turbulent oscillatory boundary layers at high Reynolds numbers, **206**, 1989, 265–297
Jensen, O. E.
Instabilities of flow in a collapsed tube, **220**, 1990, 623–659
Jensen, O. E. & Pedley, T. J.
The existence of steady flow in a collapsed tube, **206**, 1989, 339–374
Jillians, W. J.
The superharmonic instability of Stokes waves in deep water, **204**, 1989, 563–579
Jiménez, J.
Transition to turbulence in two-dimensional Poiseuille flow, **218**, 1990, 265–297
Johnson, E. R.
The low-frequency scattering of Kelvin waves by stepped topography, **215**, 1990, 23–44
See also Hermann, Rhines & Johnson
Johnson, E. R. & Davey, M. K.
Free-surface adjustment and topographic waves in coastal currents, **219**, 1990, 273–289
Johnson, P. C., Nott, P. & Jackson, R.
Frictional–collisional equations of motion for particulate flows and their application to chutes, **210**, 1990, 501–535
Johnson, R. S.
Ring waves on the surface of shear flows: a linear and nonlinear theory, **215**, 1990, 145–160
Johnston, K. W. *See* Ojha, Cobbold, Johnston & Hummel
Jones, C. A. *See* Barenghi & Jones
Jones, S. W., Thomas, O. M. & Aref, H.
Chaotic advection by laminar flow in a twisted pipe, **209**, 1989, 335–357
Joo, S. W., Schultz, W. W. & Messiter, A. F.
An analysis of the initial-value wavemaker problem, **214**, 1990, 161–183
Joseph, D. D. *See* Chen, Bai & Joseph; Hu & Joseph; Preziosi, Chen & Joseph; Singh, Caussignac, Fortes, Joseph & Lundgren
Joseph, R. I. *See* Allen & Joseph

Kadanoff, L. *See* Castaing, Gunaratne, Heslot, Kadanoff, Libchaber, Thomae, Wu, Zaleski & Zanetti
Kader, B. A. & Yaglom, A. M.
Mean fields and fluctuation moments in unstably stratified turbulent boundary layers, **212**, 1990, 637–662
Kambe, T. & Umeki, M.
Nonlinear dynamics of two-mode interactions in parametric excitation of surface waves, **212**, 1990, 373–393
Kamm, R. D. *See* Elad, Kamm & Shapiro
Kang, I. S. & Leal, L. G.
Bubble dynamics in time-periodic straining flows, **218**, 1990, 41–69
Kaplan, H. & Dinar, N.
The interference of two passive scalars in a homogeneous isotropic turbulent field, **203**, 1989, 273–287
Kapteyn, C. *See* Wijngaarden & Kapteyn
Karagozian, A. R. *See* Heister, McDonough, Karagozian & Jenkins
Karnik, U. *See* Tavoularis & Karnik
Karnik, U. & Tavoularis, S.
Measurements of heat diffusion from a continuous line source in a uniformly sheared turbulent flow, **202**, 1989, 233–261
Karpouzian, G., Spedding, G. & Cheng, H. K.
Lunate-tail swimming propulsion. Part 2. Performance analysis, **210**, 1990, 329–351
Kassoy, D. R. *See* Wang & Kassoy
Katzer, E.
On the lengthscales of laminar shock/boundary-layer interaction, **206**, 1989, 477–496
Keen, D. J. *See* Ingham, Keen, Heggs & Morton
Keener, J. P.
Knotted vortex filaments in an ideal fluid, **211**, 1990, 629–651
Keller, J. B.
On unsymmetrically impinging jets, **211**, 1990, 653–655
Kerr, O. S.
Heating a salinity gradient from a vertical sidewall: linear theory, **207**, 1989, 323–352
Heating a salinity gradient from a vertical sidewall: nonlinear theory, **217**, 1990, 529–546

Kerr, R. C. *See* Lister & Kerr

Kerr, R. C., Woods, A. W., Worster, M. G. & Huppert, H. E.
Solidification of an alloy cooled from above. Part 1. Equilibrium growth, **216**, 1990, 323–342
Solidification of an alloy cooled from above. Part 2. Non-equilibrium interfacial kinetics, **217**, 1990, 331–348
Solidification of an alloy cooled from above. Part 3. Compositional stratification within the solid, **218**, 1990, 337–354

Kerr, R. M.
Velocity, scalar and transfer spectra in numerical turbulence, **211**, 1990, 309–332

Kerstein, A. R.
Linear-eddy modelling of turbulent transport. Part 3. Mixing and differential molecular diffusion in round jets, **216**, 1990, 411–435

Kessler, J. O. *See* Hill, Pedley & Kessler; Pedley & Kessler

Kevorkian, J. & Yu, J.
Passage through the critical Froude number for shallow-water waves over a variable bottom, **204**, 1989, 31–56

Kharif, C. & Ramamonjiarisoa, A.
On the stability of gravity waves on deep water, **218**, 1990, 163–170

Khayat, R. E. & Cox, R. G.
Inertia effects on the motion of long slender bodies, **209**, 1989, 435–462

Kichatinov, L. L.
Lagrangian approach to the mean-field electrodynamics for turbulent fluids with arbitrary conductivities, **208**, 1989, 115–126

Kida, S. & Hunt, J. C. R.
Interaction between different scales of turbulence over short times, **201**, 1989, 411–445

Kim, I. & Pearlstein, A. J.
Stability of the flow past a sphere, **211**, 1990, 73–93

Kim, J.
On the structure of pressure fluctuations in simulated turbulent channel flow, **205**, 1989, 421–451
See also Lee, Kim & Moin

Kim, M.-H. & Yue, D. K. P.
The complete second-order diffraction solution for an axisymmetric body. Part 2. Bichromic incident waves and body motions, **211**, 1990, 557–593

Kimura, S., Schubert, G. & Straus, J. M.
Time-dependent convection in a fluid-saturated porous cube heated from below, **207**, 1989, 153–189

Kirby, J. T. *See* Dalrymple, Suh, Kirby & Chae

Kit, E. *See* Shemer & Kit

Klaassen, G. P. & Peltier, W. R.
The role of transverse secondary instabilities in the evolution of free shear layers, **202**, 1989, 367–402

Klewicki, J. C. & Falco, R. E.
On accurately measuring statistics associated with small-scale structure in turbulent boundary layers using hot-wire probes, **219**, 1990, 119–142

Klopman, G.
A note on integral properties of periodic gravity waves in the case of a non-zero mean Eulerian velocity, **211**, 1990, 609–615

Koch, D. L. & Shaqfeh, E. S. G.
The instability of a dispersion of sedimenting spheroids, **209**, 1989, 521–542

Kolodner, P. *See* Bensimon, Kolodner, Surko, Williams & Croquette

Komori, S., Murakami, Y. & Ueda, H.
The relationship between surface-renewal and bursting motions in an open-channel flow, **203**, 1989, 103–123

Koschmieder, E. L. & Prahl, S. A.
Surface-tension-driven Bénard convection in small containers, **215**, 1990, 571–583

Kosinov, A. D., Maslov, A. A. & Shevelkov, S. G.
Experiments on the stability of supersonic laminar boundary layers, **219**, 1990, 621–633

Koyano, Y. *See* Nadaoka, Hino & Koyano

Kraynik, A. M. *See* Reinelt & Kraynik

Kribus, A. *See* Leibovich & Kribus

Krumdieck, S. *See* Weidman, Krumdieck & Rouse

Ku, A. C. *See* Chen, Ku, Chan & Yang

Kuiken, H. K.
Viscous sintering: the surface-tension-driven flow of a liquid form under the influence of curvature gradients at its surface, **214**, 1990, 503–515

Kung, T. -J. *See* Akylas & Kung

Kyong, N. H. *See* Chung & Kyong

Lakshmana Gowda, B. H. & Tulapurkara, E. G.
Reverse flow in a channel with an obstruction at the entry, **204**, 1989, 229–244

Landahl, M. T.
On sublayer streaks, **212**, 1990, 593–614
See also Breuer & Landahl

Lane-Serff, G. F. *See* Linden, Lane-Serff & Smeed

Langbein, D.
The shape and stability of liquid menisci at solid edges, **213**, 1990, 251–265

Larson, R. G., Shaqfeh, E. S. G. & Muller, S. J.
A purely elastic instability in Taylor–Couette flow, **218**, 1990, 573–600

LaRue, J. C. *See* Mohamed & LaRue
Laso, M. *See* Schmuki & Laso
Lauterborn, W. *See* Vogel, Lauterborn & Timm
Law, C. K. *See* Chao & Law; Umemura & Law
Lawrence, G. A.
On the hydraulics of Boussinesq and non-Boussinesq two-layer flows, **215**, 1990, 457–480
Le Quéré, P. & Pécheux, J.
Numerical simulations of multiple flow transitions in axisymmetric annulus convection, **206**, 1989, 517–544
Le Roy, P. *See* Babiano, Basdevant, Le Roy & Sadourny
Leal, L. G. *See* Ascoli, Dandy & Leal; Chi & Leal; Dandy & Leal; Kang & Leal; Stone & Leal; Stoos & Leal
LeBlond, P. H. *See* Masson & LeBlond
Lee, C.-H. & Scalvounos, P. D.
Removing the irregular frequencies from integral equations in wave–body interactions, **207**, 1989, 393–418
Lee, C. J. *See* Brown, Cheng & Lee
Lee, C. J. & Cheng, H. K.
An airfoil theory of bifurcating laminar separation from thin obstacles, **216**, 1990, 255–284
Lee, H. I. & Stewart, D. S.
Calculation of linear detonation instability: one-dimensional instability of plane detonation, **216**, 1990, 103–132
Lee, M. J., Kim, J. & Moin, P.
Structure of turbulence at high shear rate, **216**, 1990, 561–583
Lehmann, B. *See* Monkiewitz, Bechert, Barsikow & Lehmann
Leib, S. J. *See* Goldstein & Leib
Leibovich, S. & Kribus, A.
Large-amplitude wavetrains and solitary waves in vortices, **216**, 1990, 459–504
Leitch, A. M. & Baines, W. D.
Liquid volume flux in a weak bubble plume, **205**, 1989, 77–98
Lenhoff, A. M. *See* Daskopoulos & Lenhoff
Leonard, A. *See* Rom-Kedar, Leonard & Wiggins
Leong, C. W. & Ottino, J. M.
Experiments on mixing due to chaotic advection in a cavity, **209**, 1989, 463–499
Leuchter, O. *See* Jacquin, Leuchter, Cambon & Mathieu
Levinson, P. *See* Gennes, Hua & Levinson
Li, F. & Widnall, S. E.
Wave patterns in plane Poiseuille flow created by concentrated disturbances, **208**, 1989, 639–656
Li, J. D. *See* Perry & Li
Lian, Q. X.
A visual study of the coherent structure of the turbulent boundary layer in flow with adverse pressure gradient, **215**, 1990, 101–124
Lian, Z. W. *See* Lin, Lian & Creighton
Libchaber, A. *See* Castaing, Gunaratne, Heslot, Kadanoff, Libchaber, Thomae, Wu, Zaleski & Zanetti
Lienhard, J. H. & Van Atta, C. W.
The decay of turbulence in thermally stratified flow, **210**, 1990, 57–112
Lighthill, J.
Biofluiddynamics of balistiform and gymnotiform locomotion. Part 2. The pressure distribution arising in two-dimensional irrotational flow from a general symmetrical motion of a flexible flat plate normal to itself, **213**, 1990, 1–10
Biofluiddynamics of balistiform and gymnotiform locomotion. Part 3. Momentum enhancement in the presence of a body of elliptic cross-section, **213**, 1990, 11–20
Biofluiddynamics of balistiform and gymnotiform locomotion. Part 4. Short-wavelength limitations on momentum enhancement, **213**, 1990, 21–28
Lighthill, J. & Blake, R.
Biofluiddynamics of balistiform and gymnotiform locomotion. Part 1. Biological background, and analysis by elongated-body theory, **212**, 1990, 183–207
Lin, S. P. & Ibrahim, E. A.
Instability of a viscous liquid jet surrounded by a viscous gas in a vertical pipe, **218**, 1990, 641–658
Lin, S. P., Lian, Z. W. & Creighton, B. J.
Absolute and convective instability of a liquid sheet, **220**, 1990, 673–689
Linden, P. F. *See* Hopfinger & Linden; Simpson & Linden
Linden, P. F., Lane-Serff, G. F. & Smeed, D. A.
Emptying filling boxes: the fluid mechanics of natural ventilation, **212**, 1990, 309–335
Linton, C. M. & Evans, D. V.
The interaction of waves with arrays of vertical circular cylinders, **215**, 1990, 549–569 (and Corrigendum, **218**, 1990, 663)
List, E. J. *See* Papantoniou & List
Lister, C. R. B.
An explanation for the multivalued heat transport found experimentally for convection in a porous medium, **214**, 1990, 287–320
Lister, J. R.
Buoyancy-driven fluid fracture: the effects of material toughness and of low-viscosity precursors, **210**, 1990, 263–280
Buoyancy-driven fluid fracture: similarity solutions for the horizontal and vertical

propagation of fluid-filled cracks, **217**, 1990, 213–239

Lister, J. R. & Kerr, R. C.
The effect of geometry on the gravitational instability of a buoyant region of viscous fluid, **202**, 1989, 577–594
The propagation of two-dimensional and axisymmetric viscous gravity currents at a fluid interface, **203**, 1989, 215–249

Liu, B. *See* Nakayama & Liu

Liu, C. S. *See* Suh & Liu

Liu, K. F. & Mei, C. C.
Slow spreading of a sheet of Bingham fluid on an inclined plane, **207**, 1989, 505–529

Liu, P. L.-F.
A note on long waves induced by short-wave groups over a shelf, **205**, 1989, 163–170
See also Wu & Liu; Yoon & Liu

Liu, R., Nicolaou, D. & Stevenson, T. N.
Waves from an oscillatory disturbance in a stratified shear flow, **219**, 1990, 609–619

Lock, G. S. H. & Han, J.-C.
Buoyant laminar flow of air in a long, square-section cavity aligned with the ambient temperature gradient, **207**, 1989, 489–504

Longuet-Higgins, M. S.
Monopole emission of sound by asymmetric bubble oscillations. Part 1. Normal modes, **201**, 1989, 525–541
Monopole emission of sound by asymmetric bubble oscillations. Part 2. An initial-value problem, **201**, 1989, 543–565
Some integral theorems relating to the oscillations of bubbles, **204**, 1989, 159–166
An analytic model of sound production by raindrops, **214**, 1990, 395–410

Lovera, O. M. *See* Barcilon & Lovera

Lundgren, T. *See* Singh, Caussignac, Fortes, Joseph & Lundgren

Lytton, C. C. *See* Needham, Riley, Lytton & Smith

Ma, P. K. H. & Hui, W. H.
Similarity solutions of the two-dimensional unsteady boundary-layer equations, **216**, 1990, 537–559

McCluskey, F. M. J. *See* González, McCluskey, Castellanos & Barrero

McComb, W. D., Shanmugasundaram, V. & Hutchinson, P.
Velocity-derivative skewness and two-time velocity correlations of isotropic turbulence as predicted by the LET theory, **208**, 1989, 91–114

McDonough, J. M. *See* Heister, McDonough, Karagozian & Jenkins

Mac Giolla Mhuiris, N. *See* Speziale & Mac Giolla Mhuiris

McIntyre, M. E. & Norton, W. A.
Dissipative wave-mean interactions and the transport of vorticity or potential vorticity, **212**, 1990, 403–435 (and Corrigendum **220**, 1990, 693)

McIver, M. & McIver, P.
Second-order wave diffraction by a submerged circular cylinder, **219**, 1990, 519–529

McIver, P.
Sloshing frequencies for cylindrical and spherical containers filled to an arbitrary depth, **201**, 1989, 243–257
See also McIver & McIver

McKinzie, D. J. *See* Zaman, McKinzie & Rumsey

Macosko, C. W. *See* Coyle, Macosko & Scriven

Macrossan, M. N.
Hypervelocity flow of dissociating nitrogen downstream of a blunt nose, **217**, 1990, 167–202

McWilliams, J. C.
The vortices of geostrophic turbulence, **219**, 1990, 387–404
The vortices of two-dimensional turbulence, **219**, 1990, 361–385

Malik, M. R. & Hussaini, M. Y.
Numerical simulation of interactions between Görtler vortices and Tollmien Schlichting waves, **210**, 1990, 183–199

Malkus, W. V. R. & Smith, L. M.
Upper bounds on functions of the dissipation rate in turbulent shear flow, **208**, 1989, 479–507

Mangano, R. A. *See* Corke & Mangano

Mansour, N. N. *See* Rogers, Mansour & Reynolds

Marcus, P. S.
Vortex dynamics in a shearing zonal flow, **215**, 1990, 393–430

Martinez, M. J. & Udell, K. S.
Axisymmetric creeping motion of drops through circular tubes, **210**, 1990, 565–591

Martins, C. A. *See* Aranha & Martins

Marton, I. *See* Yeh, Ghazali & Marton

Marubayashi, K. *See* Masuda, Marubayashi & Ishibashi

Maslov, A. A. *See* Kosinov, Maslov & Shevelkov

Massaguer, J. M., Mercader, I. & Net, M.
Nonlinear dynamics of vertical vorticity in low-Prandtl-number thermal convection, **214**, 1990, 579–597

Masson, D. & LeBlond, P. H.
Spectral evolution of wind-generated surface gravity waves in a dispersed ice field, **202**, 1989, 43–81

Massons, J., Ruiz, X. & Díaz, F.
Image processing of the near wakes of stationary and rotating cylinders, **204**, 1989, 167–184

Masuda, A., Marubayashi, K. & Ishibashi, M.
A laboratory experiment and numerical simulation of an isolated barotropic eddy in a basin with topographic β, **213**, 1990, 641–655
Matarrese, M. D. *See* Messiter & Matarrese
Mathew, G. *See* Zdravkovich, Brand, Mathew & Weston
Mathew, J. & Akylas, T. R.
On three-dimensional long water waves in a channel with sloping sidewalls, **215**, 1990, 289–307
Mathieu, J. *See* Jacquin, Leuchter, Cambon & Mathieu
Mathioulakis, D. S. & Telionis, D. P.
Pulsating flow over an ellipse at an angle of attack, **201**, 1989, 99–121
Matsson, O. J. E. & Alfredsson, P. H.
Curvature- and rotation-induced instabilities in channel flow, **210**, 1990, 537–563
Matsuda, T., Tamura, N. & Sawada, K.
Three-dimensional numerical simulation of flows past scoops in a gas centrifuge, **201**, 1989, 203–221
Mei, C. C. *See* Hara & Mei; Liu & Mei
Mei, C. C. & Agnon, Y.
Long-period oscillations in a harbour induced by incident short waves, **208**, 1989, 595–608
Melville, W. K. *See* Zhang & Melville
Melville, W. K., Tomasson, G. G. & Renouard, D. P.
On the stability of Kelvin waves, **206**, 1989, 1–23
Ménard, C. *See* Badr, Coutanceau, Dennis & Ménard
Meneguzzi, M. & Pouquet, A.
Turbulent dynamos driven by convection, **205**, 1989, 297–318
Menikoff, R. *See* Grove & Menikoff
Mercader, I. *See* Massaguer, Mercader & Net
Messiter, A. F. *See* Joo, Schultz & Messiter
Messiter, A. F. & Matarrese, M. D.
Hypersonic viscous interaction with strong blowing, **219**, 1990, 291–311
Métais, O. *See* Herring & Métais
Métais, O. & Herring, J. R.
Numerical simulations of freely evolving turbulence in stably stratified fluids, **202**, 1989, 117–148
Michel, J. M. *See* Briançon-Marjollet, Franc & Michel
Milder, D. M.
The effects of truncation on surface-wave Hamiltonians, **217**, 1990, 249–262
Miles, J. W.
Wave motion in a viscous fluid of variable depth, **212**, 1990, 365–372
Parametrically excited sta.-ling edge waves, **214**, 1990, 43–57
Wave reflection from a gently sloping beach, **214**, 1990, 59–66
Capillary–viscous forcing of surface waves, **219**, 1990, 635–646
See also Henderson & Miles
Milinazzo, F. A. & Saffman, P. G.
Effect of a surface shear layer on gravity and gravity–capillary waves of permanent form, **216**, 1990, 93–101
Milliken, W. J., Gottlieb, M., Graham, A. L., Mondy, L. A. & Powell, R. L.
The viscosity–volume fraction relation for suspensions of rod-like particles by falling-ball rheometry, **202**, 1989, 217–232
Miloh, T.
On periodic and solitary wavelike solutions of the intermediate long-wave equation, **211**, 1990, 617–627
Minev, P. D. *See* Shopov, Minev, Bazhlekov & Zapryanov
Minotti, F. *See* Gratton & Minotti
Mitlin, V. S.
Two-phase multicomponent filtration: instabilities, autowaves and retrograde phenomena, **220**, 1990, 369–395
Mittelmann, H. D. *See* Shen, Neitzel, Jankowski & Mittelmann
Moffatt, H. K.
On the behaviour of a suspension of conducting particles subjected to a time-periodic magnetic field, **218**, 1990, 509–529
See also Bajer & Moffatt
Mohamed, M. S. & LaRue, J. C.
The decay power law in grid-generated turbulence, **219**, 1990, 195–214
Moin, P. *See* Lee, Kim & Moin; Pauley, Moin & Reynolds
Mondy, L. A. *See* Milliken, Gottlieb, Graham, Mondy & Powell
Monkiewitz, P. A., Bechert, D. W., Barsikow, B. & Lehmann, B.
Self-excited oscillations and mixing in a heated round jet, **213**, 1990, 611–639
Moody, D. M.
Unsteady expansion of an ideal gas into a vacuum, **214**, 1990, 455–468
Moon, T. J. & Walker, J. S.
Liquid metal flow through a sharp elbow in the plane of a strong magnetic field, **213**, 1990, 397–418
Mørch, K. A.
On cavity cluster formation in a focused acoustic field, **201**, 1989, 57–76
Morris, P. J.
Instability waves in twin supersonic jets, **220**, 1990, 293–307
See also Carpenter & Morris

Morton, B. R. *See* Ingham, Keen, Heggs & Morton; Ingham, Tang & Morton
Muller, S. J. *See* Larson, Shaqfeh & Muller
Müller, U. *See* Ehrhard & Müller
Mullin, T. *See* Anson, Mullin & Cliffe; Fearn, Mullin & Cliffe
Mumford, J. C. *See* Ferré, Mumford, Savill & Giralt
Münch, W. *See* Drummond & Münch
Murakami, Y. *See* Komori, Murakami & Ueda
Muralidhar, K.
Flow and transport in single rock fractures, **215**, 1990, 481–502
Murata, S. & Tanaka, S.
Aerodynamic characteristics of a two-dimensional porous sail, **206**, 1989, 463–475
Murray, B. T. & Chen, C. F.
Double-diffusive convection in a porous medium, **201**, 1989, 147–166

Nadaoka, K., Hino, M. & Koyano, Y.
Structure of the turbulent flow field under breaking waves in the surf zone, **204**, 1989, 359–387
Nagano, Y. & Tagawa, M.
A structural turbulence model for triple products of velocity and scalar, **215**, 1990, 639–657
Nagata, M.
Nonlinear Faraday resonance in a box with a square base, **209**, 1989, 265–284
Three-dimensional finite-amplitude solutions in plane Couette flow: bifurcation from infinity, **217**, 1990, 519–527
Nair, K. R. C. *See* Sachdev & Nair
Nakamura, Y. & Hirata, K.
Critical geometry of oscillating bluff bodies, **208**, 1989, 375–393
Nakayama, A. & Liu, B.
The turbulent near wake of a flat plate at low Reynolds number, **217**, 1990, 93–114
Nakos, D. E. & Sclavounos, P. D.
On steady and unsteady ship wave patterns, **215**, 1990, 263–288
Nam, S.
Higher-order boundary-layer solution for unsteady motion of a circular cylinder, **214**, 1990, 89–110
Nanivadekar, C. K. *See* Bousfield, Stockel & Nanivadekar
Naudascher, E. *See* Obasaju, Ermshaus & Naudascher
Needham, D. J., Riley, N., Lytton, C. C. & Smith, J. H. B.
A jet in crossflow. Part 2, **211**, 1990, 515–528
Neitzel, G. P. *See* Shen, Neitzel, Jankowski & Mittelmann
Net, M. *See* Massaguer, Mercader & Net
Neumann, G.
Three-dimensional numerical simulation of buoyancy-driven convection in vertical cylinders heated from below, **214**, 1990, 559–578
Newell, A. C., Passot, T. & Souli, M.
The phase diffusion and mean drift equations for convection at finite Rayleigh numbers in large containers, **220**, 1990, 187–252
Newhouse, L. A. & Pozrikidis, C.
The Rayleigh–Taylor instability of a viscous liquid layer resting on a plane wall, **217**, 1990, 615–638
Newman, J. N.
Second-harmonic wave diffraction at large depths, **213**, 1990, 59–70
Ngan, C. G. & Dussan V., E. B.
On the dynamics of liquid spreading on solid surfaces, **209**, 1989, 191–226
Nguyen Thi, H., Billia, B. & Jamgotchian, H.
Influence of thermosolutal convection on the solidification front during upwards solidification, **204**, 1989, 581–597
Nicolaou, D. *See* Liu, Nicolaou & Stevenson
Nicoli, C. & Pelcé, P.
One-dimensional model for the Rijke tube, **202**, 1989, 83–96
Nir, A. & Acrivos, A.
Sedimentation and sediment flow on inclined surfaces, **212**, 1990, 139–153
Nishioka, M. *See* Asai & Nishioka
Nokes, R. I. *See* Ivey & Nokes
Norton, W. A. *See* McIntyre & Norton
Nott, P. *See* Johnson, Nott & Jackson

Obasaju, E. D., Ermshaus, R. & Naudascher, E.
Vortex-induced streamwise oscillations of a square-section cylinder in a uniform stream, **213**, 1990, 171–189
O'Brien, R. W.
The electroacoustic equations for a colloidal suspension, **212**, 1990, 81–93
Oğuz, H. N. & Prosperetti, A.
Surface-tension effects in the contact of liquid surfaces, **203**, 1989, 149–171
A generalization of the impulse and virial theorems with an application to bubble oscillations, **218**, 1990, 143–162
Bubble entrainment by the impact of drops on liquid surfaces, **219**, 1990, 143–179
O'Hern, T. J.
An experimental investigation of turbulent shear-flow cavitation, **215**, 1990, 365–391
Ohlsen, D. R. & Hart, J. E.
The transition to baroclinic chaos on the β-plane, **203**, 1989, 23–50
Ohmi, K., Coutanceau, M., Ta Phuoc Loc & Dulieu, A.
Vortex formation around an oscillating and

translating airfoil at large incidences, **211**, 1990, 37–60

Ojha, M., Cobbold, R. S. C., Johnston, K. W. & Hummel, R. L.
Pulsatile flow through constricted tubes: an experimental investigation using photochromic tracer methods, **203**, 1989, 173–197

Olbricht, W. L. *See* Aul & Olbricht

Olson, D. E. *See* Snyder & Olson

Olson, P. *See* Travis, Olson & Schubert

Ong, C. F. *See* Daniels & Ong

Or, A. C.
The effects of temperature-dependent viscosity and the instabilities in the convection rolls of a layer of fluid-saturated porous medium, **206**, 1989, 497–515
New phenomena in the Eckhaus instability of thermal Rossby waves, **216**, 1990, 613–628

Ottino, J. M. *See* Leong & Ottino; Swanson & Ottino

Oztekin, A. *See* Pearlstein & Oztekin

Palmer, J. L. *See* Ribando, Palmer & Scott

Pandit, A. B. & Davidson, J. F.
Hydrodynamics of the rupture of thin liquid films, **212**, 1990, 11–24

Panides, E. & Chevray, R.
Vortex dynamics in a plane, moderate-Reynolds-number shear layer, **214**, 1990, 411–435

Paolucci, S.
Direct numerical simulation of two-dimensional turbulent natural convection in an enclosed cavity, **215**, 1990, 229–262

Paolucci, S. & Chenoweth, D. R.
Transition to chaos in a differentially heated vertical cavity, **201**, 1989, 379–410

Papageorgiou, D. T. & Smith, F. T.
Linear instability of the wake behind a flat plate placed parallel to a uniform stream, **208**, 1989, 67–89

Papantoniou, D. & List, E. J.
Large-scale structure in the far field of buoyant jets, **209**, 1989, 151–190

Paranthoen, P. *See* Fulachier, Borghi, Anselmet & Paranthoen

Park, W. J. *See* Cimbala & Park

Parthasarathy, R. N. & Faeth, G. M.
Turbulence modulation in homogeneous dilute particle-laden flows, **220**, 1990, 485–514
Turbulent dispersion of particles in self-generated homogeneous turbulence, **220**, 1990, 515–537

Passot, T. *See* Newell, Passot & Souli

Patterson, J. C. & Armfield, S. W.
Transient features of natural convection in a cavity, **219**, 1990, 469–497

Pauley, L. P., Moin, P. & Reynolds, W. C.
The structure of two-dimensional separation, **220**, 1990, 397–411

Pearlstein, A. J. *See* Kim & Pearlstein

Pearlstein, A. J., Harris, R. M. & Terrones, G.
The onset of convective instability in a triply diffusive fluid layer, **202**, 1989, 443–465

Pearlstein, A. J. & Oztekin, A.
Selection of convective planform orientation by boundary anisotropy, **207**, 1989, 267–294

Pécheux, J. *See* Le Quéré & Pécheux

Pedley, T. J. *See* Borgas & Pedley; Hill, Pedley & Kessler; Jensen & Pedley; Ralph & Pedley

Pedley, T. J. & Kessler, J. O.
A new continuum model for suspensions of gyrotactic micro-organisms, **212**, 1990, 155–182

Pelcé, P. *See* Clavin, Pelcé & He; Nicoli & Pelcé

Peltier, W. R. *See* Klaassen & Peltier

Penhune, J. P. *See* Brown, Buchsbaum, Hall, Penhune, Schmitt, Watson & Wyatt

Peregrine, D. H. *See* Cooker, Peregrine, Vidal & Dold

Peregrine, D. H., Shoker, G. & Symon, A.
The bifurcation of liquid bridges, **212**, 1990, 25–39

Perlin, M., Henderson, D. & Hammack, J.
Experiments on ripple instabilities. Part 2. Selective amplification of resonant triads, **219**, 1990, 51–80

Perrin, B. *See* Tabeling, Cardoso & Perrin

Perry, A. E. & Li, J. D.
Experimental support for the attached-eddy hypothesis in zero-pressure-gradient turbulent boundary layers, **218**, 1990, 405–438

Persson, H. *See* Alfredsson & Persson

Pesce, C. P. *See* Aranha & Pesce

Peterka, J. A. *See* Woo, Cermak & Peterka

Peters, M. H. *See* Ying & Peters

Phillips, O. M.
Flow-controlled reactions in rock fabrics, **212**, 1990, 263–278
See also Shyu & Phillips

Polvani, L. M., Zabusky, N. J. & Flierl, G. R.
Two-layer geostrophic vortex dynamics. Part 1. Upper-layer V-states and merger, **205**, 1989, 215–242

Pontikis, Y. G. *See* Baskaran, Pontikis & Bradshaw

Pope, S. B. *See* Girimaji & Pope; Yeung & Pope

Poppe, W. *See* Fiszdon, Schwerdtner, Stamm & Poppe

Pouquet, A. *See* Meneguzzi & Pouquet

Powell, R. L. *See* Milliken, Gottlieb, Graham, Mondy & Powell

Pozrikidis, C.
A study of linearized oscillatory flow past

particles by the boundary-integral method, **202**, 1989, 17–41
Inviscid drops with internal circulation, **209**, 1989, 77–92
The instability of a moving viscous drop, **210**, 1990, 1–21
The deformation of a liquid drop moving normal to a plane wall, **215**, 1990, 331–363
The axisymmetric deformation of a red blood cell in uniaxial straining Stokes flow, **216**, 1990, 231–254
See also Newhouse & Pozrikidis
Prahl, S. A. *See* Koschmieder & Prahl
Prasad, R. R. & Sreenivasan, K. R.
Quantitative three-dimensional imaging and the structure of passive scalar fields in fully turbulent flows, **216**, 1990, 1–34
Preziosi, L., Chen, K. & Joseph, D. D.
Lubricated pipelining: stability of core–annular flow, **201**, 1989, 323–356
Proctor, M. R. E. *See* Hurlburt, Proctor, Weiss & Brownjohn
Prosperetti, A. *See* Oğuz & Prosperetti
Pullin, D. I. *See* Buntine & Pullin
Pullin, D. I., Jacobs, P. A., Grimshaw, R. H. J. & Saffman, P. G.
Instability and filamentation of finite-amplitude waves on vortex layers of finite thickness, **209**, 1989, 359–384
Pumphrey, H. C. & Elmore, P. A.
The entrainment of bubbles by drop impacts, **220**, 1990, 539–567

Qian, J.
The spectrum of a turbulent passive scalar in the viscous–convective range, **217**, 1990, 203–212
Quon, C.
Cross-sectional convection induced by an insulated boundary in a cylinder, **202**, 1989, 201–215

Raichlen, F. *See* Zelt & Raichlen
Rainey, R. C. T.
A new equation for calculating wave loads on offshore structures, **204**, 1989, 295–324
Ralph, M. E. & Pedley, T. J.
Viscous and inviscid flows in a channel with a moving indentation, **209**, 1989, 543–566
Ramamonjiarisoa, A. *See* Kharif & Ramamonjiarisoa
Ratulowski, J. & Chang, H.-C.
Marangoni effects of trace impurities on the motion of long gas bubbles in capillaries, **210**, 1990, 303–328
Reed, H. L. *See* Singer, Ferziger & Reed
Rees, D. A. S. & Riley, D. S.
The three-dimensional stability of finite-amplitude convection in a layered porous medium heated from below, **211**, 1990, 437–461
Reinelt, D. A. & Kraynik, A. M.
On the shearing flow of foams and concentrated emulsions, **215**, 1990, 431–455
Renouard, D. P. *See* Melville, Tomasson & Renouard
Reshotko, E. *See* Ashpis & Reshotko
Reynolds, W. C. *See* Pauley, Moin & Reynolds; Rogers, Mansour & Reynolds
Rhines, P. B. *See* Hermann, Rhines & Johnson
Ribando, R. J., Palmer, J. L. & Scott, J. E.
Flow in a partially filled, rotating, tapered cylinder, **203**, 1989, 541–555
Riesco-Chueca, P. & Fernández de la Mora, J.
Brownian motion far from equilibrium: a hypersonic approach, **214**, 1990, 639–663
Riley, D. S. *See* Rees & Riley
Riley, D. S. & Winters, K. H.
Modal exchange mechanisms in Lapwood convection, **204**, 1989, 325–358
A numerical bifurcation study of natural convection in a tilted two-dimensional porous cavity, **215**, 1990, 309–329
Riley, N. *See* Amin & Riley; Needham, Riley, Lytton & Smith
Riley, N. & Vasantha, R.
Unsteady high-Reynolds-number flows, **205**, 1989, 243–262
Rockwell, D. *See* Gursul & Rockwell; Staubli & Rockwell
Rogers, B. B. *See* Yao & Rogers
Rogers, M. M., Mansour, N. N. & Reynolds, W. C.
An algebraic model for the turbulent flux of a passive scalar, **203**, 1989, 77–101
Rom-Kedar, V., Leonard, A. & Wiggins, S.
An analytical study of transport, mixing and chaos in an unsteady vortical flow, **214**, 1990, 347–394
Rouse, P. *See* Weidman, Krumdieck & Rouse
Rubinstein, J. & Torquato, S.
Flow in random porous media: mathematical formulation, variational principles, and rigorous bounds, **206**, 1989, 25–46
Rubio, M. A., Bigazzi, P., Albavetti, L. & Ciliberto, S.
Spatio-temporal regimes in Rayleigh–Bénard convection in a small rectangular cell, **209**, 1989, 309–334
Ruiz, X. *See* Massons, Ruiz & Díaz
Rumsey, C. L. *See* Zaman, McKinzie & Rumsey
Ryrie, S. C. *See* Cox, Drazin, Ryrie & Slater
Ryskin, G.
Dynamics and sound emission of a spherical cavitation bubble in a dilute polymer solution, **218**, 1990, 239–263

Sa, J.-Y. *See* Chang & Sa
Sachdev, P. L. & Nair, K. R. C.
Evolution and decay of cylindrical and spherical nonlinear acoustic waves generated by a sinusoidal source, **204**, 1989, 389–404
Sadhal, S. S. *See* Vuong & Sadhal
Sadourny, R. *See* Babiano, Basdevant, Le Roy & Sadourny; Farge & Sadourny
Saffman, P. G.
A model of vortex reconnection, **212**, 1990, 395–402
See also Milinazzo & Saffman; Pullin, Jacobs, Grimshaw & Saffman
Sakai, S.
Rossby–Kelvin instability: a new type of ageostrophic instability caused by a resonance between Rossby waves and gravity waves, **202**, 1989, 149–176
Sakuma, H. & Ghil, M.
Stability of stationary barotropic modons by Lyapunov's direct method, **211**, 1990, 393–416
Sanz, A. & Diez, J. L.
Non-axisymmetric oscillations of liquid bridges, **205**, 1989, 503–521
Savill, A. M. *See* Ferré, Mumford, Savill & Giralt
Saville, D. A. *See* Acrivos, Jeffrey & Saville
Sawada, K. *See* Matsuda, Tamura & Sawada
Scalvounos, P. D. *See* Lee & Scalvounos
Scheffner, N. *See* Hammack, Scheffner & Segur
Scheil, C. M. *See* Dahm, Scheil & Tryggvason
Schladow, S. G.
Oscillatory motion in a side-heated cavity, **213**, 1990, 589–610
Schmitt, K. F. *See* Brown, Buchsbaum, Hall, Penhune, Schmitt, Watson & Wyatt
Schmuki, P. & Laso, M.
On the stability of rivulet flow, **215**, 1990. 125–143
Scholl, H. *See* Sulem, She, Scholl & Frisch
Schonberg, J. A. & Hinch, E. J.
Inertial migration of a sphere in Poiseuille flow, **203**, 1989, 517–524
Schubert, G. *See* Bercovici, Schubert, Glatzmaier & Zebib; Kimura, Schubert & Straus; Travis, Olson & Schubert
Schult, R. *See* Creamer, Henyey, Schult & Wright
Schultz, W. W. *See* Joo, Schultz & Messiter
Schwerdtner, M. von *See* Fiszdon, Schwerdtner, Stamm & Poppe
Sclavounos, P. D. *See* Nakos & Sclavounos
Scott, J. E. *See* Ribando, Palmer & Scott
Scriven, L. E. *See* Christodoulou & Scriven; Coyle, Macosko & Scriven
Secomb, T. W. *See* Halpern & Secomb
Seddougui, S. O. *See* Bassom & Seddougui; Hall & Seddougui
See, D. L. *See* Goldstein, Chiang & See
Segur, H. *See* Hammack, Scheffner & Segur
Seminara, G. *See* Tubino & Seminara
Shadid, J. N. & Goldstein, R. J.
Visualization of longitudinal convection roll instabilities in an inclined enclosure heated from below, **215**, 1990, 61–84
Shanmugasundaram, V. *See* McComb, Shanmugasundaram & Hutchinson
Shanthini, R.
Degeneracies of the temporal Orr–Sommerfeld eigenmodes in plane Poiseuille flow, **201**, 1989, 13–34
Shapiro, A. H. *See* Elad, Kamm & Shapiro
Shaqfeh, E. S. G. *See* Koch & Shaqfeh; Larson, Shaqfeh & Muller
She, Z. S. *See* Sulem, She, Scholl & Frisch
Shelley, M. J. *See* Baker & Shelley
Shemer, L.
On the directly generated resonant standing waves in a rectangular tank, **217**, 1990, 143–165
Shemer, L. & Kit, E.
Long-time evolution and regions of existence of parametrically excited nonlinear cross-waves in a tank, **209**, 1989, 249–263
Shen, H. H. *See* Babić, Shen & Shen
Shen, H. T. *See* Babić, Shen & Shen
Shen, Y., Neitzel, G. P., Jankowski, D. F. & Mittelmann, H. D.
Energy stability of thermocapillary convection in a model of the float-zone crystal-growth process, **217**, 1990, 639–660
Shepherd, T. G.
A general method for finding extremal states of Hamiltonian dynamical systems, with applications to perfect fluids, **213**, 1990, 573–587
Shevelkov, S. G. *See* Kosinov, Maslov & Shevelkov
Shima, A., Tomita, Y., Gibson, D. C. & Blake, J. R.
The growth and collapse of cavitation bubbles near composite surfaces, **203**, 1989, 199–214
Shoker, G. *See* Peregrine, Shoker & Symon
Shopov, P. J., Minev, P. D., Bazhlekov, I. B. & Zapryanov, Z. D.
Interaction of a deformable bubble with a rigid wall at moderate Reynolds numbers, **219**, 1990, 241–271
Shtern, V. A. *See* Goldshtik & Shtern
Shutts, G. J.
Planetary semi-geostrophic equations derived from Hamilton's principle, **208**, 1989, 545–573

Shy, S. S. & Breidenthal, R. E.
Laboratory experiments on the cloud-top entrainment instability, **214**, 1990, 1–15
Shyu, J.-H. & Phillips, O. M.
The blockage of gravity and capillary waves by longer waves and currents, **217**, 1990, 115–141
Simpson, J. E. & Linden, P. F.
Frontogenesis in a fluid with horizontal density gradients, **202**, 1989, 1–16
Simpson, R. L. *See* Devenport & Simpson
Singer, B. A., Ferziger, J. H. & Reed, H. L.
Numerical simulations of transition in oscillatory plane channel flow, **208**, 1989, 45–66
Singh, P., Caussignac, Ph., Fortes, A., Joseph, D. D. & Lundgren, T.
Stability of periodic arrays of cylinders across the stream by direct simulation, **205**, 1989, 553–571
Skews, B. W.
Autorotation of rectangular plates, **217**, 1990, 33–40
Slater, K. *See* Cox, Drazin, Ryrie & Slater
Smeed, D. A. *See* Linden, Lane-Serff & Smeed
Smith, F. T. *See* Foster & Smith; Papageorgiou & Smith
Smith, F. T. & Brown, S. N.
The inviscid instability of a Blasius boundary layer at large values of the Mach number, **219**, 1990, 499–518
Smith, J. H. B. *See* Needham, Riley, Lytton & Smith
Smith, L. M. *See* Malkus & Smith
Smith, M. K.
The mechanism for the long-wave instability in thin liquid films, **217**, 1990, 469–485
The long-wave instability in heated or cooled inclined liquid layers, **219**, 1990, 337–360
Smith, R. W.
Divided discharges for divided flows, **202**, 1989, 499–514
Loss of frequency response along sampling tubes for the measurements of gaseous composition at high temperature and pressures, **208**, 1989, 25–43
Two-dimensional shear dispersion for skewed flows in narrow gaps between moving surfaces, **214**, 1990, 211–228
An easy-to-use formula for contaminant dispersion, **215**, 1990, 195–207
Shear dispersion along a rotating axle in a closely fitting shaft, **219**, 1990, 647–658
Smits, A. J. *See* Alving, Smits & Watmuff; Fernando & Smits
Snyder, B. & Olson, D. E.
Flow development in a model airway bronchus, **207**, 1989, 379–392
So, R. M. C. *See* Anwer & So
Souli, M. *See* Newell, Passot & Souli
Soward, A. M. *See* Childress & Soward
Spalart, P. R.
Theoretical and numerical study of a three-dimensional turbulent boundary layer, **205**, 1989, 319–340
See also Coleman, Ferziger & Spalart
Spedding, G. *See* Karpouzian, Spedding & Cheng
Speziale, C. G. & Mac Giolla Mhuiris, N.
On the prediction of equilibrium states in homogeneous turbulence, **209**, 1989, 591–615
Spiegel, E. A. *See* Childress, Ierley, Spiegel & Young
Sreenivasan, K. R. *See* Prasad & Sreenivasan; Strykowski & Sreenivasan
Stamm, G. *See* Fiszdon, Schwerdtner, Stamm & Poppe
Stamps, D. W., Arpaci, V. S. & Clark, J. A.
Unsteady three-dimensional natural convection in a fluid-saturated porous medium, **213**, 1990, 377–396
Staubli, T. & Rockwell, D.
Pressure fluctuations on an oscillating trailing edge, **203**, 1989, 307–346
Sterl, A.
Numerical simulation of liquid-metal MHD flows in rectangular ducts, **216**, 1990, 161–191
Stern, M. E. & Whitehead, J. A.
Separation of a boundary jet in a rotating fluid, **217**, 1990, 41–69
Stevenson, T. N. *See* Liu, Nicolaou & Stevenson
Stewart, D. S. *See* Lee & Stewart
Stockel, I. H. *See* Bousfield, Stockel & Nanivadekar
Stokes, A. N. & Barton, N. G.
The concentration distribution produced by shear dispersion of solute in Poiseuille flow, **210**, 1990, 201–221
Stone, H. A. & Leal, L. G.
The influence of initial deformation on drop breakup in subcritical time-dependent flows at low Reynolds numbers, **206**, 1989, 223–263
Breakup of concentric double emulsion droplets in linear flows, **211**, 1990, 123–156
The effects of surfactants on drop deformation and breakup, **220**, 1990, 161–186
Stoos, J. A. & Leal, L. G.
A spherical particle straddling a fluid/gas interface in an axisymmetric straining flow, **217**, 1990, 263–298
Straus, J. M. *See* Kimura, Schubert & Straus
Strykowski, P. J. & Sreenivasan, K. R.
On the formation and suppression of vortex 'shedding' at low Reynolds numbers, **218**, 1990, 71–107

Suh, K. D. *See* Dalrymple, Suh, Kirby & Chae
Suh, Y. K. & Liu, C. S.
Study on the flow structure around a flat plate in a stagnation flow field, **214**, 1990, 469–487
Sulem, P. L., She, Z. S., Scholl, H. & Frisch, U.
Generation of large-scale structures in three-dimensional flow lacking parity-invariance, **205**, 1989, 341–358
Sullivan, P. J. *See* Chatwin & Sullivan
Sumer, B. M. *See* Jensen, Sumer & Fredsøe
Surko, C. M. *See* Bensimon, Kolodner, Surko, Williams & Croquette
Swanson, P. D. & Ottino, J. M.
A comparative computational and experimental study of chaotic mixing of viscous fluids, **213**, 1990, 227–249
Symon, A. *See* Peregrine, Shoker & Symon

Tabeling, P., Cardoso, O. & Perrin, B.
Chaos in a linear array of vortices, **213**, 1990, 511–530
Tadjfar, M. *See* Bodonyi, Welch, Duck & Tadjfar
Tagawa, M. *See* Nagano & Tagawa
Tam, C. K. W. & Ahuja, K. K.
Theoretical model of discrete tone generation by impinging jets, **214**, 1990, 67–87
Tam, C. K. W. & Hu, F. Q.
On the three families of instability waves of high-speed jets, **201**, 1989, 447–483
The instability and acoustic wave modes of supersonic mixing layers inside a rectangular channel, **203**, 1989, 51–76
Tamura, N. *See* Matsuda, Tamura & Sawada
Tanaka, S. *See* Murata & Tanaka
Tang, T. *See* Ingham, Tang & Morton
Ta Phuoc Loc *See* Ohmi, Coutanceau, Ta Phuoc Loc & Dulieu
Tatsumi, T. & Yoshimura, T.
Stability of the laminar flow in a rectangular duct, **212**, 1990, 437–449
Tatsuno, M. & Bearman, P. W.
A visual study of the flow around an oscillating circular cylinder at low Keulegan–Carpenter numbers and low Stokes numbers, **211**, 1990, 157–182
Tavoularis, S. *See* Karnik & Tavoularis
Tavoularis, S. & Karnik, U.
Further experiments on the evolution of turbulent stresses and scales in uniformly sheared turbulence, **204**, 1989, 457–478
Telionis, D. P. *See* Mathioulakis & Telionis
Telste, J. G.
Potential flow about two counter-rotating vortices approaching a free surface, **201**, 1989, 259–278
Temkin, S.
Attenuation and dispersion of sound in bubbly fluids via the Kramers–Kronig relations, **211**, 1990, 61–72
Temkin, S. & Ecker, G. Z.
Droplet pair interactions in a shock-wave flow field, **202**, 1989, 467–497
Terrones, G. *See* Pearlstein, Harris & Terrones
Thangam, S. & Hur, N.
Laminar secondary flows in curved rectangular ducts, **217**, 1990, 421–440
Thomae, S. *See* Castaing, Gunaratne, Heslot, Kadanoff, Libchaber, Thomae, Wu, Zaleski & Zanetti
Thomas, G. P.
Wave–current interactions: an experimental and numerical study. Part 2. Nonlinear waves, **216**, 1990, 505–536
Thomas, O. M. *See* Jones, Thomas & Aref
Thomson, D. J.
A stochastic model for the motion of particle pairs in isotropic high-Reynolds-number turbulence, and its application to the problem of concentration variance, **210**, 1990, 113–153
Thorpe, S. A.
The distortion of short internal waves produced by a long wave, with application to ocean boundary mixing, **208**, 1989, 395–415
Tiederman, W. G. *See* Walker & Tiederman
Timm, R. *See* Vogel, Lauterborn & Timm
Tomasson, G. G. *See* Melville, Tomasson & Renouard
Tomita, Y. *See* Shima, Tomita, Gibson & Blake
Torczynski, J. R.
On the motion of a gas experiencing range-dependent volumetric heating, **201**, 1989, 167–188
Torquato, S. *See* Rubinstein & Torquato
Townsend, A. A.
Early days of turbulence research in Cambridge, **212**, 1990, 1–5
Travis, B., Olson, P. & Schubert, G.
The transition from two-dimensional to three-dimensional planforms in infinite-Prandtl-number thermal convection, **216**, 1990, 71–91
Tribollet, B. *See* Deslouis, Gil & Tribollet
Tryggvason, G. *See* Dahm, Scheil & Tryggvason; Yu & Tryggvason
Tsai, W.-T., Yue, D. K. P. & Yip, K. M. K.
Resonantly excited regular and chaotic motions in a rectangular wave tank, **216**, 1990, 343–380
Tso, J. & Hussain, F.
Organized motions in a fully developed turbulent axisymmetric jet, **203**, 1989, 425–448

Tubino, M. & Seminara, G.
Free–forced interactions in developing meanders and suppression of free bars, **214**, 1990, 131–159
Tuck, E. O. & Dixon, A.
Surf-skimmer planing hydrodynamics, **205**, 1989, 581–592
Tulapurkara, E. G. *See* Lakshmana Gowda & Tulapurkara
Turner, J. S. *See* Baines, Turner & Campbell
Tuttle, E. R.
Laminar flow in twisted pipes, **219**, 1990, 545–570

Udell, K. S. *See* Martinez & Udell
Ueda, H. *See* Komori, Murakami & Ueda
Umeda, Y. *See* Ishii, Umeda & Yuhi
Umeki, M. *See* Kambe & Umeki
Umemura, A. & Busse, F. H.
Axisymmetric convection at large Rayleigh and infinite Prandtl number, **208**, 1989, 459–478
Umemura, A. & Law, C. K.
Natural-convection boundary-layer flow over a heated plate with arbitrary inclination, **219**, 1990, 571–584

Vallis, G. K. *See* Carnevale & Vallis
Vallis, G. K., Carnevale, G. F. & Young, W. R.
Extremal energy properties and construction of stable solutions of the Euler equations, **207**, 1989, 133–152
Van Atta, C. W. *See* Lienhard & Van Atta
Van Dommelen, L. L.
On the Lagrangian description of unsteady boundary-layer separation. Part 2. The spinning sphere, **210**, 1990, 627–645
Van Dommelen, L. L. & Cowley, S. J.
On the Lagrangian description of unsteady boundary-layer separation. Part 1. General theory, **210**, 1990, 593–626
Vanden-Broeck, J.-M. *See* Dias & Vanden-Broeck
Van Dyke, M.
Extended Stokes series: laminar flow through a heated horizontal pipe, **212**, 1990, 289–308
Vasantha, R. *See* Riley & Vasantha
Vatistas, G. H.
A note on liquid vortex sloshing and Kelvin's equilibria, **217**, 1990, 241–248
Veeravalli, S. & Warhaft, Z.
The shearless turbulent mixing layer, **207**, 1989, 191–229
Thermal dispersion from a line source in the shearless turbulence mixing layer, **216**, 1990, 35–70
Vergniolle, S. *See* Jaupart & Vergniolle
Vidal, C. *See* Cooker, Peregrine, Vidal & Dold
Vittori, G. & Blondeaux, P.
Sand ripples under sea waves. Part 2. Finite-amplitude development, **218**, 1990, 19–39
Vogel, A., Lauterborn, W. & Timm, R.
Optical and acoustic investigations of the dynamics of laser-produced cavitation bubbles near a solid boundary, **206**, 1989, 299–338
Vuong, S. T. & Sadhal, S. S.
Growth and translation of a liquid–vapour compound drop in a second liquid. Part 1. Fluid mechanics, **209**, 1989, 617–637
Growth and translation of a liquid–vapour compound drop in a second liquid. Part 2. Heat transfer, **209**, 1989, 639–660

Walker, D. T. & Tiederman, W. G.
Turbulent structure in a channel flow with polymer injection at the wall, **218**, 1990, 377–403
Walker, J. S. *See* Moon & Walker
Wang, M. & Kassoy, D. R.
Dynamic compression and weak shock formation in an inert gas due to fast piston acceleration, **220**, 1990, 267–292
Wang, Y. G. & Wen, C. S.
The effect of weak gravitational force on Brownian coagulation of small particles, **214**, 1990, 599–610
Warhaft, Z. *See* Veeravalli & Warhaft; Yoon & Warhaft
Watmuff, J. H. *See* Alving, Smits & Watmuff
Watson, E. B. B., Banks, W. H. H., Zaturska, M. B. & Drazin, P. G.
On transition to chaos in two-dimensional channel flow symmetrically driven by accelerating walls, **212**, 1990, 451–485
Watson, K. M. *See* Brown, Buchsbaum, Hall, Penhune, Schmitt, Watson & Wyatt
Weber, J. E. & Førland, E.
Effect of the air on the drift velocity of water waves, **218**, 1990, 619–640
Wedemeyer, E. *See* Böttcher & Wedemeyer
Wei, T. & Willmarth, W. W.
Reynolds-number effects on the structure of a turbulent channel flow, **204**, 1989, 57–95
Weidman, P. D. *See* Ali & Weidman
Weidman, P. D., Krumdieck, S. & Rouse, P.
The shape and stability of pinned rotating annular menisci, **219**, 1990, 25–50
Weihs, D. *See* Frankel & Weihs
Weinstock, J.
A theory of turbulent transport, **202**, 1989, 319–338
Comparison of a pressure–strain rate theory with simulations, **205**, 1989, 195–214

Weisbach, M. F. *See* Breidenthal, Buonadonna & Weisbach
Weiss, N. O. *See* Hurlburt, Proctor, Weiss & Brownjohn
Welch, W. J. C. *See* Bodonyi, Welch, Duck & Tadjfar
Wen, C. S. *See* Wang & Wen
Weston, A. *See* Zdravkovich, Brand, Mathew & Weston
Wheeler, A. A. *See* Forth & Wheeler
Whitehead, J. A. *See* Stern & Whitehead
Widnall, S. E. *See* Li & Widnall
Wiggins, S. *See* Rom-Kedar, Leonard & Wiggins
Wijngaarden, L. van & Kapteyn, C.
Concentration waves in dilute bubble/liquid mixtures, **212**, 1990, 111–137
Williams, H. *See* Bensimon, Kolodner, Surko, Williams & Croquette
Williamson, C. H. K.
Oblique and parallel modes of vortex shedding in the wake of a circular cylinder at low Reynolds numbers, **206**, 1989, 579–627
Williams-Stuber, K. *See* Gharib & Williams-Stuber
Williams-Stuber, K. & Gharib, M.
Transition from order to chaos in the wake of an airfoil, **213**, 1990, 29–57
Willmarth, W. W. *See* Wei & Willmarth
Wilson, S. D. R.
The Taylor–Saffman problem for a non-Newtonian liquid, **220**, 1990, 413–425
Winters, K. H. *See* Riley & Winters
Woo, H. G. C., Cermak, J. E. & Peterka, J. A.
Secondary flows and vortex formation around a circular cylinder in constant-shear flow, **204**, 1989, 523–542
Woods, A. W. *See* Kerr, Woods, Worster & Huppert
Worster, M. G. *See* Kerr, Woods, Worster & Huppert
Wright, J. *See* Creamer, Henyey, Schult & Wright
Wu, G. X. & Eatock Taylor, R.
The hydrodynamic force on an oscillating ship with low forward speed, **211**, 1990, 333–353
Wu, J. *See* Hwang, Xu & Wu
Wu, J.-K. & Liu, P. L.-F.
Harbour excitations by incident wave groups, **217**, 1990, 595–613
Wu, X. *See* Castaing, Gunaratne, Heslot, Kadanoff, Libchaber, Thomae, Wu, Zaleski & Zanetti
Wundrow, D. W. *See* Goldstein & Wundrow
Wyatt, D. C. *See* Brown, Buchsbaum, Hall, Penhune, Schmitt, Watson & Wyatt

Xu, D. *See* Hwang, Xu & Wu

Yaglom, A. M. *See* Kader & Yaglom
Yamazaki, H.
Breakage models: lognormality and intermittency, **219**, 1990, 181–193
Yang, S. Z. *See* Chen, Ku, Chan & Yang
Yao, L. S. & Rogers, B. B.
The linear stability of mixed convection in a vertical annulus, **201**, 1989, 279–298
Yeh, H. H., Ghazali, A. & Marton, I.
Experimental study of bore run-up, **206**, 1989, 563–578
Yeo, K. S.
The hydrodynamic stability of boundary-layer flow over a class of anisotropic compliant walls, **220**, 1990, 125–160
Yeung, P. K. & Pope, S. B.
Lagrangian statistics from direct numerical simulations of isotropic turbulence, **207**, 1989, 531–586
Yeung, R. W. *See* Grosenbaugh & Yeung
Yiantsios, S. G. & Davis, R. H.
On the buoyancy-driven motion of a drop towards a rigid surface or a deformable interface, **217**, 1990, 547–573
Yih, C.-S.
Wave formation on a liquid layer for de-icing airplane wings, **212**, 1990, 41–53
Ying, R. & Peters, M. H.
Hydrodynamic interaction of two unequal-sized spheres in a slightly rarefied gas: resistance and mobility functions, **207**, 1989, 353–378
Yip, K. M. K. *See* Tsai, Yue & Yip
Yoon, K. & Warhaft, Z.
The evolution of grid-generated turbulence under conditions of stable thermal stratification, **215**, 1990, 601–638
Yoon, S. B. & Liu, P. L.-F.
Interactions of currents and weakly nonlinear water waves in shallow water, **205**, 1989, 397–419
Yoshimura, T. *See* Tatsumi & Yoshimura
Young, W. R. *See* Childress, Ierley, Spiegel & Young; Vallis, Carnevale & Young
Yu, D. & Tryggvason, G.
The free-surface signature of unsteady, two-dimensional vortex flows, **218**, 1990, 547–572
Yu, J. *See* Kevorkian & Yu
Yue, D. K. P. *See* Kim & Yue; Tsai, Yue & Yip
Yuhi, M. *See* Ishii, Umeda & Yuhi

Zabusky, N. J. *See* Polvani, Zabusky & Flierl
Zaleski, S. *See* Castaing, Gunaratne, Heslot, Kadanoff, Libchaber, Thomae, Wu, Zaleski & Zanetti
Zaman, K. B. M. Q., McKinzie, D. J. & Rumsey, C. L.
A natural low-frequency oscillation of the

flow over an airfoil near stalling conditions, **202**, 1989, 403–442

Zanetti, G. *See* Castaing, Gunaratne, Heslot, Kadanoff, Libchaber, Thomae, Wu, Zaleski & Zanetti

Zapryanov, Z. D. *See* Shopov, Minev, Bazhlekov & Zapryanov

Zaturska, M. B. *See* Watson, Banks, Zaturska & Drazin

Zdravkovich, M. M., Brand, V. P., Mathew, G. & Weston, A.
Flow past short circular cylinders with two free ends, **203**, 1989, 557–575

Zebib, A. *See* Bercovici, Schubert, Glatzmaier & Zebib

Zelt, J. A. & Raichlen, F.
A Lagrangian model for wave-induced harbour oscillations, **213**, 1990, 203–225

Zhang, J. & Melville, W. K.
Evolution of weakly nonlinear short waves riding on long gravity waves, **214**, 1990, 321–346

INDEX OF REVIEWS

The name of the reviewer is given in parentheses

BEER, T. *Applied Environmetrics Oceanographic Tables*. Applied Environmetrics, 1989. (I. S. ROBINSON) **217**, 1990, 661.

BEER, T. *Applied Environmetrics Meteorological Tables*. Applied Environmetrics, 1990. (N. WELLS) **218**, 1990, 659.

BENNEY, D. J., SHU, F. H. & YUAN, C. (Eds) *Selected Papers of C. C. Lin*, Vols. 1 and 2. World Scientific, 1987. (P. G. DRAZIN) **201**, 1989, 566.

BENNEY, D. J., SHU, F. H. & YUAN, C. (Eds) *Symposium to Honor C. C. Lin*. World Scientific, 1988. (P. G. DRAZIN) **201**, 1989, 566.

BIRD, R. B., ARMSTRONG, R. C. & HASSAGER, O. (Eds) *Dynamics of Polymer Liquids*, Vol. 1 (2nd edn). Wiley, 1987. (J. M. RALLISON) **211**, 1990, 660.

BIRD, R. B., CURTISS, C. F., ARMSTRONG, R. C. & HASSAGER, O. (Eds) *Dynamics of Polymer Liquids*, Vol. 2 (2nd edn). Wiley, 1987. (J. M. RALLISON) **211**, 1990, 660.

BOJAREVIČS, V., FREIBERGS, YA. SHILOVA, E. I. & SHCHERBININ, E. V. *Electrically Induced Vortical Flows*. Kluwer, 1989. (A. J. MESTEL) **208**, 1989, 657.

BORTKOVSKII, R. S. *Air–Sea Exchange of Heat and Moisture During Storms*. Reidel, 1987. (S. A. THORPE) **206**, 1989, 630.

BRAUNER, C.-M. & SCHMIDT-LAINÉ, C. (Eds) *Mathematical Modelling in Combustion and Related Topics*. Martinus Nijhoff, 1988. (B. ROGG) **215**, 1990, 660.

BRITTER, R. E. & MCQUAID, J. *Workbook on the Dispersion of Dense Gases*. Health & Safety Executive, 1988. (J. W. ROTTMAN) **211**, 1990, 656.

CHEREMISINOFF, P. N., CHEREMISINOFF, N. P. & CHENG, S. L. (Eds) *Civil Engineering Practice*, Vol. 2. Technomic, 1988. (J. F. A. SLEATH) **213**, 1990, 657.

DAY, R. A. *How to Write and Publish a Scientific Paper* (3rd edn). Cambridge University Press, 1989. (G. K. BATCHELOR) **207**, 1989, 629.

DRESTROVSKII, Y. N. & KOSTOMAROV, D. P. *Numerical Simulation of Plasmas*. Springer, 1986. (L. C. WOODS) **213**, 1990, 656.

DURÃO, D. F. G., WHITELAW, J. H. & WITZE, P. O. (Eds) *Instrumentation for Combustion and Flow in Engines*. Kluwer Academic, 1989. (B. ROGG) **215**, 1990, 660.

FAVRE, A., GUITTON, H., GUITTON, J., LICHNEWOWICZ, A. & WOLF, E. *De la Causalité à la Finalité; A Propos de la Turbulence*. Malcine Editeau, 1988. (M. LESIEUR) **206**, 1989, 628.

GAD-EL-HAK, M. (Ed.) *Advances in Fluid Mechanics Measurements*. Springer, 1989. (A. TSINOBER) **215**, 1990, 658.

GAD-EL-HAK, M. (Ed.) *Frontiers in Experimental Fluid Mechanics*. Springer, 1989. (A. TSINOBER) **215**, 1990, 658.

GLEICK, J. *Chaos: Making a New Science*. Viking, 1987. (D. G. DRITSCHEL) **216**, 1990, 657.

GODA, Y. *Random Seas and the Design of Maritime Structures*. University of Tokyo Press, 1985. (J. A. EWING) **206**, 1989, 629.

GUYON, E., NADAL, J.-P. & POMEAU, Y. (Eds) *Disorder and Mixing*. Kluwer, 1988. (H. AREF) **219**, 1990, 659.

IBAD-ZADE, YU. A. *Movement of Sediment in Open Channels*. Balkema, 1987. (T. J. SMITH) **202**, 1989, 595.

INGARD, K. U. *Fundamentals of Waves and Oscillations*. Cambridge University Press, 1988 (D. V. EVANS) **212**, 1990, 685.

LANDAU, L. D. & LIFSHITZ, E. M. *Fluid Mechanics* (2nd edn). Pergamon, 1987. (G. K. BATCHELOR) **205**, 1989, 593.

LLIBOUTRY, L. A. *Very Slow Flows of Solids*. Martinus Nijhoff, 1987. (D. MCKENZIE) **202**, 1989, 596.

MASSEL, S. R. *Hydrodynamics of Coastal Zones*. Elsevier, 1989. (D. H. PEREGRINE) **212**, 1990, 686.

MAZUMDAR, J. *An Introduction to Mathematical Physiology and Biology*. Cambridge University Press, 1989. (T. W. SECOMB) **210**, 1990, 659.

MELCHIOR, P. *The Physics of the Earth's Core: An Introduction*. Pergamon, 1986. (R. C. KERR) **203**, 1989, 595.

MELVIN, A. *Natural Gas: Basic Science and Technology*. British Gas, 1988. (K. N. C. BRAY) **209**, 1989, 663.

MYSHKIS, A. D., BABSKII, V. G., KOPACHEVSKII, N. D., SLOBOZHANIN, L. A. & TYUPTSOV, A. D. *Low-Gravity Fluid Mechanics*. Springer, 1987. (R. FINN) **204**, 1989, 598.

NAKAYAMA, Y., WOODS, W. A. & CLARK, D. G. (Eds) *Visualized Flow*. Pergamon, 1988. (G. I. BARENBLATT) **208**, 1989, 658.

PRODI, F., ROSSI, F. & CRISTOFERI, G. (Eds) *Agrometeorology*. Comune di Cesena, 1987. (P. J. WALKLATE) **210**, 1990, 660.

SIMPSON, J. E., *Gravity Currents: In the Environment and in the Laboratory*. Ellis Horwood, 1987. (G. I. BARENBLATT) **209**, 1989, 661.

SOBOTKA, Z. *Rheology of Materials and Engineering Structures*. Elsevier, 1984. (R. S. JONES) **206**, 1989, 630.

VISHIK, M. J. & FURSIKOV, A. V. *Mathematical Problems of Statistical Hydromechanics*. Kluwer, 1988. (P. CONSTANTIN) **211**, 1990, 659.

WALTER, H. U. (Ed.) *Fluid Sciences and Materials Science in Space*. Springer. 1987. (M. G. WORSTER) **211**, 1990, 657.

WESSON, J. *Tokomaks*. Oxford University Press, 1987. (L. C. WOODS) **213**, 1990, 656.

WOODS, L. C., *Principles of Magnetoplasma Dynamics*. Oxford University Press, 1987. (D. A. DIVER) **218**, 1990. 661.

YOUNG, F. R. *Cavitation*. McGraw-Hill, 1989. (J. FIELD) **218**, 1990, 660.